

1814/435/6

FIG. 1

Walsh  
1 of 41

GAAATCCGAG GAAATTAATCA AATCATAAAC ACAAATAAACAA ATTTGAGTAG TTGCGGCACA	60
CACACACACA CACAGCCCGT GGAATTAATAC ACTAAAGCG ACACACAAATC CAAAAAATCA	120
GCACACAAAA CATCAATAAA C ATG CAT TCG ATT AAA TGT TTA TTA ACA GCA Met His Trp Ile Lys Cys Leu Leu Thr Ala 1 5 10	171
TTC ATT TCG TTC ACA GTC ATC GTG CAG GTT CAC AGT TCC CGC AGC TTT Phe Ile Cys Phe Thr Val Ile Val Gln Val His Ser Ser Gly Ser Phe 15 20 25	219
CAG TTC CGC CTC AAC TAC TTC AGC AAC GAT CAC GCG CGG GAC AAC GAG Glu Leu Arg Leu Lys Tyr Phe Ser Asn Asp His Gly Arg Asp Asn Glu 30 35 40	267
GGT CGC TCG TCG AGC GCG CAG TCG GAC GGA GCG AGC GCG AAC TCG CTC Gly Arg Cys Cys Ser Gly Glu Ser Asp Gly Ala Thr Gly Lys Cys Leu 45 50 55	315
GGC AGC TCG AAC ACC CGG TTT CGC GTC TCG CTA AAC CAC TAC CAG GCG Gly Ser Cys Lys Thr Arg Phe Arg Val Cys Leu Lys His Tyr Gln Ala 60 65 70	363
ACC ATC GAC ACC ACC TCC CAG TCG ACC TAC GGG GAC CTC ATC ACC CGC Thr Ile Asp Thr Thr Ser Gln Cys Thr Tyr Gly Asp Val Ile Thr Pro 75 80 85 90	411
ATT CTC GCG CAG AAC TCG GTC AAT CTC ACC GAC GCG CAG CGC TTC CAG Ile Leu Gly Glu Asn Ser Val Asn Leu Thr Asp Ala Gln Arg Phe Gln 95 100 105	459
AAC AAC GCG TTC ACC AAT CCC ATC CAG TTC CCC TTC TCG TTC TCA TCG Asn Lys Gly Phe Thr Asn Pro Ile Gln Phe Pro Phe Ser Phe Ser Trp 110 115 120	507
CCG GGT ACC TTC TCG CTC ATC GTC CAG GCG TCG CAT CAT ACC AAC AAT Pro Gly Thr Phe Ser Leu Ile Val Glu Ala Trp His Asp Thr Asn Asn 125 130 135	555
AGC GCG AAT GCG CGA ACC AAC AAC CTC CTC ATC CAG CGA CTC TTC GTC Ser Gly Asn Ala Arg Thr Asn Lys Leu Leu Ile Gln Arg Leu Leu Val 140 145 150	603
CAG CAG GTA CTC GAG GTC TCC TCC GAA TCG AAC ACC AAC AAC TCG GAA Gln Gln Val Leu Glu Val Ser Ser Glu Trp Lys Thr Asn Lys Ser Glu 155 160 165 170	651
TCC CAG TAC ACC TCG CTC GAG TAC CAT TTC CGT GTC ACC TCG CAT CTC Ser Gln Tyr Thr Ser Leu Glu Tyr Asp Phe Arg Val Thr Cys Asp Leu 175 180 185	699
AAC TAC TAC GGA TCC GCG TGT CCC AAC TTC TCG CGG CCC CGC GAC CAT Asn Tyr Tyr Gly Ser Gly Cys Ala Lys Phe Cys Arg Pro Arg Asp Asp 190 195 200	747
TCA TTT GGA CAC TCG ACT TCG TCG GAG ACC GCG GAA ATT ATC TGT TTG Ser Phe Gly His Ser Thr Cys Ser Glu Thr Gly Glu Ile Ile Cys Leu 205 210 215	795
ACC GGA TCG CAG GCG GAT TAC TGT CAC ATA CCC AAA TCG GCG AAA GCG Thr Gly Trp Gln Gly Asp Tyr Cys His Ile Pro Lys Cys Ala Lys Gly 220 225 230	843
TGT GAA CAT GGA CAT TCG GAG AAA CCC AAT CAA TCG GTT TCG CAA CTC Cys Glu His Gly His Cys Asp Lys Pro Asn Gln Cys Val Cys Gln Leu 235 240 245 250	891

## FIG. 1 CONT'D.

GCC TGG AAC GGA CCC TIG TGC AAC CAG TGC GTT CTG GAA CCG AAC TGC Gly Trp Lys Gly Ala Leu Cys Asn Glu Cys Val Leu Glu Pro Asn Cys 255 260 265	939
ATC CAT GGC ACC TGC AAC AAA CCC TGC ACT TGC ATC TGC AAC CAG GGT Ile His Gly Thr Cys Asn Lys Pro Trp Thr Cys Ile Cys Asn Glu Gly 270 275 280	987
TGC GGA GGC TIG TAC TGC AAC CAG GAT CTG AAC TAC TGC ACC AAC CAG Trp Gly Gly Leu Tyr Cys Asn Glu Asp Leu Asn Tyr Cys Thr Asn His 285 290 295	1035
AGA CCC TGC AAC AAT GGC GGA ACC TGC TTC AAC ACC GGC CAG GGA TIG Arg Pro Cys Lys Asn Gly Gly Thr Cys Phe Asn Thr Gly Glu Gly Leu 300 305 310	1083
TAC ACA TGC AAA TGC GCT CCA GGA TAC AGT GGT GAT GAT TGC GAA AAT Tyr Thr Cys Lys Cys Ala Pro Gly Tyr Ser Gly Asp Asp Cys Glu Asn 315 320 325 330	1131
CAG ATC TAC TGC TGC GAT GGC GAT GTC AAT CCC TGC CAG AAT GGT GGT Glu Ile Tyr Ser Cys Asp Ala Asp Val Asn Pro Cys Glu Asn Gly Gly 335 340 345	1179
ACC TGC ATC GAT GAG CCG CAC ACA AAA ACC GGC TAC AAC TGT CAT TGC Thr Cys Ile Asp Glu Pro His Thr Lys Thr Gly Tyr Lys Cys His Cys 350 355 360	1227
GCC AAC GGC TGC ACC GGA AAC ATG TGC CAG CAG AAA GTC CTC ACC TGT Ala Asn Gly Trp Ser Gly Lys Met Cys Glu Glu Lys Val Leu Thr Cys 365 370 375	1275
TGC CAC AAA CCC TGT CAT CAG GGA ATC TGC CCG AAC GTT CGT CCT GGC Ser Asp Lys Pro Cys His Gln Gly Ile Cys Arg Asn Val Arg Pro Gly 380 385 390	1323
TTC GGA ACC AAC GGT CAG GGC TAC CAG TGC GAA TGT CCC ATT GGC TAC Leu Gly Ser Lys Gly Gln Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr 395 400 405 410	1371
ACC GGA CCC AAC TGC GAT CTC CAG CTC GAC AAC TGC AGT CCG AAT CCA Ser Gly Pro Asn Cys Asp Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro 415 420 425	1419
TGC ATA AAC GGT GGA ACC TGT CAG CCG ACC GGA AAC TGT ATT TGC CCA Cys Ile Asn Gly Gly Ser Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro 430 435 440	1467
CGC GGA TTT TGC GGA ACC AGA TGC CAG ACC AAC ATT GAC GAT TGT CTT Ala Gly Phe Ser Gly Thr Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu 445 450 455	1515
GCC CAC CAG TGC CAG AAC GGA GGC ACC TGC ATA GAT ATC GTC AAC CAA Gly His Gln Cys Glu Asn Gly Gly Thr Cys Ile Asp Met Val Asn Gln 460 465 470	1563
TAT CCG TGC CAA TGC GTT CCC GGT TTC CAT GGC ACC CAC TGT AGT ACC Tyr Arg Cys Gln Cys Val Pro Gly Phe His Gly Thr His Cys Ser Ser 475 480 485 490	1611
AAA GTT GAC TTG TGC CTC ATC AGA CCG TGT GGC AAT GGA GGA ACC TGC Lys Val Asp Leu Cys Leu Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys 495 500 505	1659
TTC AAT CTC AAC AAC GAT TAC CAG TGC ACC TGT CGT GGC GGA TTT ACT Leu Asn Leu Asn Asn Asp Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr 510 515 520	1707

## FIG. 1 CONT'D.

GCC AAC GAT TGC TCT GTG GAC ATC GAT GAG TGC AGC AGT GGA CCC TGT Gly Lys Asp Cys Ser Val Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys 525 530 535	1755
CAT AAC GCC GGC ACT TGC ATG AAC CCG GTC AAT TCG TTC GAA TGC GTG His Asn Gly Gly Thr Cys Met Asn Arg Val Asn Ser Phe Glu Cys Val 540 545 550	1803
TGT GCC AAT GGT TTC AGG GCC AAC CAG TGC GAT GAG GAG TCC TAC GAT Cys Ala Asn Gly Phe Arg Gly Lys Gln Cys Asp Glu Glu Ser Tyr Asp 555 560 565 570	1851
TCG GTG ACC TTC GAT GCC CAC CAA TAT GGA CCG ACC ACA CAA CCG AGA Ser Val Thr Phe Asp Ala His Gln Tyr Gly Ala Thr Thr Gln Ala Arg 575 580 585	1899
GCC GAT GGT TTG ACC AAT GCC CAG GTA GTC CTA ATT GCT GTT TTC TCC Ala Asp Gly Leu Thr Asn Ala Gln Val Val Leu Ile Ala Val Phe Ser 590 595 600	1947
GTT GCG ATG CCT TTG GTG CCG GTT ATT GCG CCG TGC GTG GTG TTC TGC Val Ala Met Pro Leu Val Ala Val Ile Ala Ala Cys Val Val Phe Cys 605 610 615	1995
ATG AAC CCG AAC CGT AAC CGT GCT CAG GAA AAG GAC GAC CCG GAG CCC Met Lys Arg Lys Arg Lys Arg Ala Gln Glu Lys Asp Asp Ala Glu Ala 620 625 630	2043
AGG AAG CAG AAC GAA CAG AAT CCG GTG GCC ACA ATG CAT CAC AAT GGC Arg Lys Gln Asn Glu Glu Asn Ala Val Ala Thr Met His His Asn Gly 635 640 645 650	2091
AGT GCG GTG GGT GTA GCT TTG GCT TCA GCC TCT CTC GCG GCG AAA ACT Ser Gly Val Gly Val Ala Leu Ala Ser Ala Ser Leu Gly Gly Lys Thr 655 660 665	2139
GCC AGC AAC AGC GGT CTC ACC TTC GAT GCG GCG AAC CCG AAT ATC ATC Gly Ser Asn Ser Gly Leu Thr Phe Asp Gly Gly Asn Pro Asn Ile Ile 670 675 680	2187
AAA AAC ACC TGG GAC AAG TCG GTC AAC AAC ATT TGT GCC TCA GCA GCA Lys Asn Thr Trp Asp Lys Ser Val Asn Asn Ile Cys Ala Ser Ala Ala 685 690 695	2235
GCA GCG GCG GCG GCG GCA GCA GCG GCG GAC GAG TGT CTC ATG TAC GGC Ala Ala Ala Ala Ala Ala Ala Ala Asp Glu Cys Leu Met Tyr Gly 700 705 710	2283
GGA TAT GTG GCC TCG GTG GCG GAT AAC AAC AAT GCC AAC TCA GAC TTT Gly Tyr Val Ala Ser Val Ala Asp Asn Asn Asn Ala Asn Ser Asp Phe 715 720 725 730	2331
TGT GTG GCT CCG CTA CAA AGA GCC AAG TCG CAA AAG CAA CTC AAC ACC Cys Val Ala Pro Leu Gln Arg Ala Lys Ser Gln Lys Gln Leu Asn Thr 735 740 745	2379
GAT CCC AGC CTC ATG CAC CCG GGT TCG CCG GCA GCG AGC TCA GCC AAG Asp Pro Thr Leu Met His Arg Gly Ser Pro Ala Gly Ser Ser Ala Lys 750 755 760	2427
GGA GCG TCT GCG GGA GGA CCG GGA GCG GCG GAG GCG AAG AGC ATC TCT Gly Ala Ser Gly Gly Gly Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser 765 770 775	2475
GTT TTA GCG GAG GGT TCC TAC TGT ACC CAG CGT TCG CCC TCG TTG GCG Val Leu Gly Glu Gly Ser Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala 780 785 790	2523

7326-015 (Sheet 4 of 44)

## FIG. 1 CONT'D.

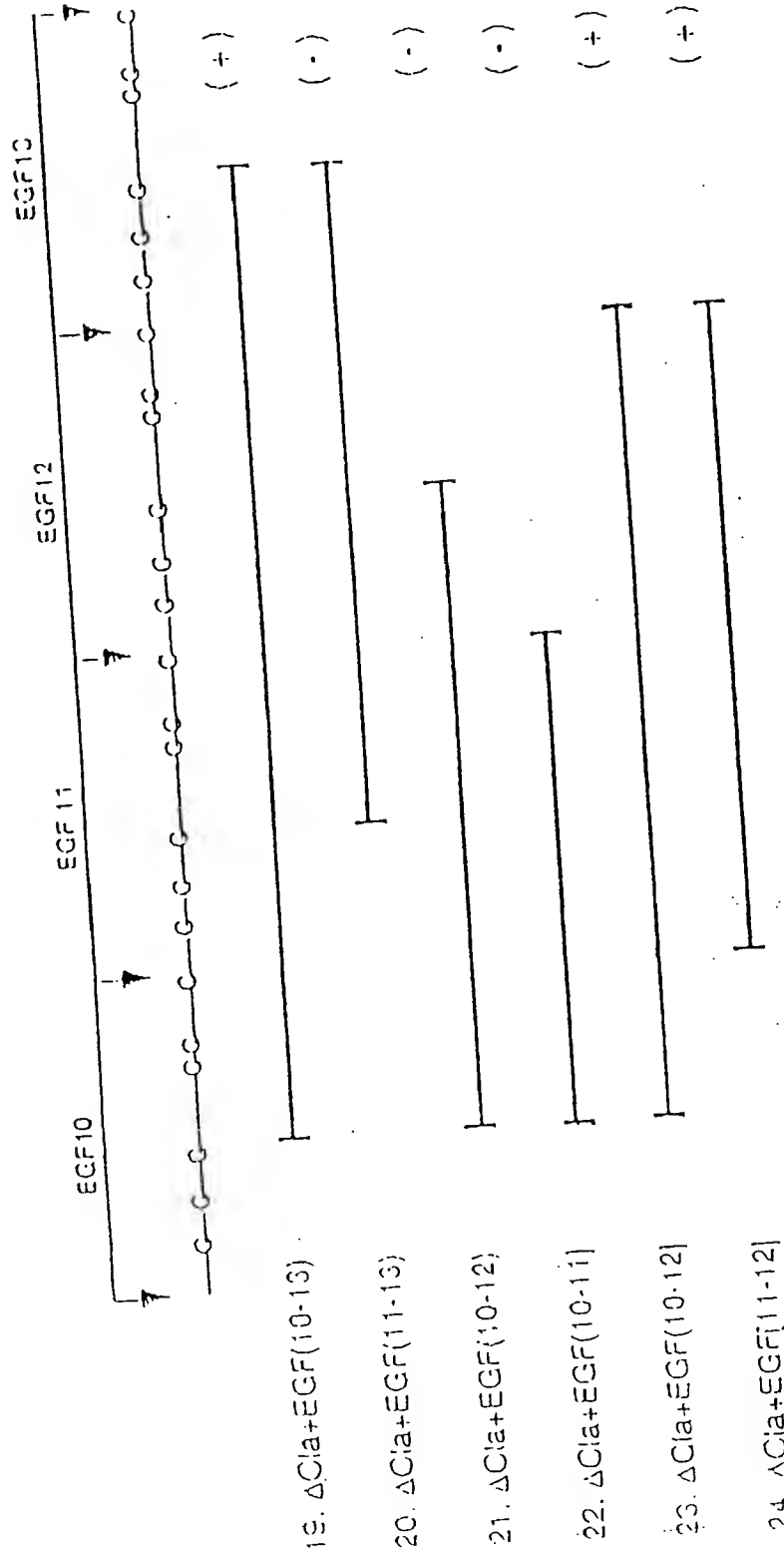
GGC GCG GCA GTG GCC GGA GCG TGT TCA TCC CAG CTA ATG GCT GCA GCT Ala Ala Gly Val Ala Gly Ala Cys Ser Ser Glu Leu Met Ala Ala Ala 795 800 805 810	2571
TCG GCA GCG GGC AGC GGA GCG GGC AGC GCG CAA CAG CAG CGA TCC GTG Ser Ala Ala Gly Ser Gly Ala Gly Thr Ala Glu Glu Glu Arg Ser Val 815 820 825	2619
GTC TCC GCG ACT CCG CAT ATG TAACTCCAAA AAATCCGGAGG GGCCTCCTGGT Val Cys Gly Thr Pro His Met 830	2670
AAATCCGGAG AAATCCGCAT GGAGGAGCTG ACAGCACATA CACAAAACAAA AGACTGGGTT	2730
GGGTTCAAAA TGTGAGAGAG AGGCCA AAAAT GTTGTGTGTG ATTGAAACAG TTTAGTCGTC	2790
ACGAAAAATG AAAAAATCTGT AACAGGCATA ACTCGTAAAC TCCCTAAAAA ATTTGTATAG	2850
TAAATTAGCAA AGCTGTGACC CAGCCGTTTC CATCCCGAAT TC	2892

FIG. 2

		% Aggregation with DI with Ser	
1. pMitfMg		40	21
2. ΔSph		0	nl
3. ΔCia		0	nl
4. ΔEGF(7-17)		0	nl
5. ΔEGF(9-26)		0	nl
6. ΔEGF(17-30)		22	nl
7. ΔEGF(7-9)		20	14
8. ΔEGF(9-17)		0	0
9. ΔEGF(17-26)		10	8
10. ΔEGF(26-30)		5	7
11. ΔEGF(9-30)		0	nl
12. ΔEGF(7-26)		0	nl
13. ΔCia+EGF(9-17)		35	20
14. ΔCia+EGF(17-26)		0	nl
15. split		42	nl
16. ΔCia+EGF(9-13)		47	25
17. ΔCia+EGF(11-15)		0	0
18. ΔCia+EGF(13-17)		0	nl
19. ΔCia+EGF(10-13)		56	23
20. ΔCia+EGF(11-13)		0	nl
21. ΔCia+EGF(10-12)		0	nl
22. ΔCia+EGF(10-11)		0	nl
23. ΔCia+EGF(10-12)		45	nl
24. ΔCia+EGF(11-12)		11	nl
25. ΔEGF		0	nl
26. ΔEGF+EGF(9-17)		24	nl
27. ΔEGF+EGF(9-13)		40	nl
28. ΔEGF+EGF(10-13)		45	23
29. ΔEGF+EGF(10-12)		48	nl
30. ΔECN		0	nl
31. ΔECN+EGF(10-13)		26	nl
32. ΔECN+EGF(10-12)		47	22
33. ΔCia+XEGF(10-13)		42	20

7326-012 (Sheet 6 of 44)

FIG. 3



ED IDEC DO GS PCEH NG IC VNT PGSY RCNC SQGT GPRCETNI NECESHPCQNI EGSCLD DPGTFCVCMPTGTGTQCE  
 ND VDEC SLGANPCEH GGRCTNTLGSFQCNC PQGYAGPRCEIDV NECLSMPCQNI DSTCLD QIGEFQDICMPGYEGLYCE

FIG. 5

[illegible]



7326-015 (Sheet 9 of 44)

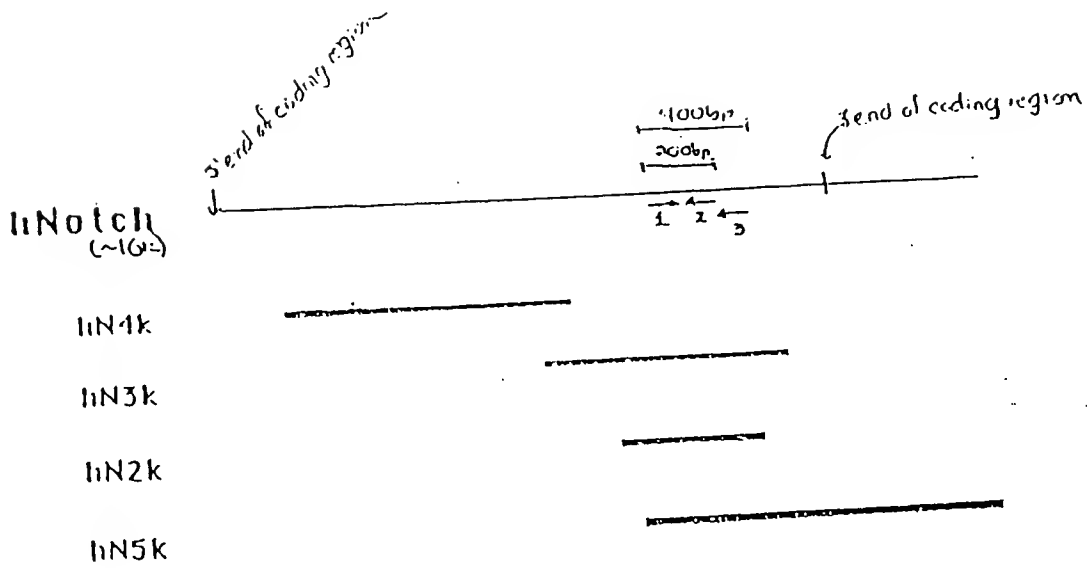
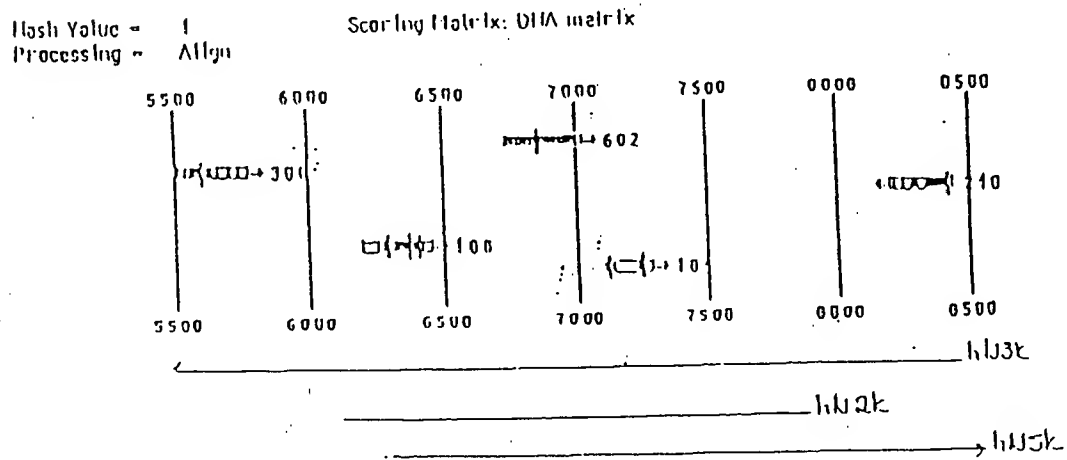
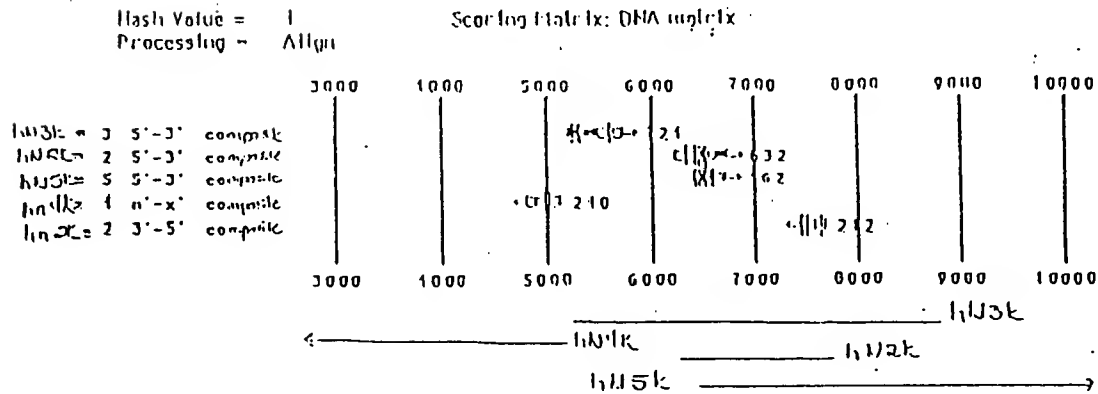


FIG. 6

FIG. 7



7326-015 (Sheet 11 of 44)

## FIG. 8 A-C

A.

```

1  GAATTCGGCT  GGGAGGATGG  TCTGAGCTAC  CTGCCCCTCC  TGCTGGGGCA  TCATTCGCCA
61  GTGGGGGAAAG  CCACACTGGG  CAAACGGGCC  AGGCCATTTT  TGGATATGTT  TACATGGTGG
121  GCGGGGGGCC  CGCACAGCT  GAGGGGCGGG  TGGACTGAGG  CTGGGGATCC  CCGGCTGGTT
181  GGGCAATACCT  GCGTTTACCC  ATGAGCTGGG  AAGTCACAA  GGGGGGCAAG  GGCCTCCGAG
241  GGTGGTATG  TGCTTCCCTC  AGGTGGC

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B.

```

1  GAATTCCTTC  CATATACGT  GACTTTTCTG  AACTGTAGC  CACCCCTAGTG  TCCTTACCTC
61  CCTCTGGAGT  TTGTCAGCTT  TGGTCTTTTC  AAGAGGCAAG  CTCTCTTCAA  GCTCCTTAAT
121  GCGGGCATGC  TCCAGTTTGG  TCTGCGTCTC  AAGATCACCT  TTGGTAAATG  ATTCTTCTTC
181  AACCCGGGAC  TGAAGGCTGG  CTCTACCCCT  CTAGGCAAGG  CAGGCAATTC  GAGGCTGGATG
241  TGTTAGATGT  GAATGTCCGT  GGGCCAGATG  GCTGCACCCC  ATGATGTGTG  GCTTCTCTCC
301  GAGGAGGGAG  CTCAGATTTG  AGTGATGAAG  ATGAAGATGC  AGAGGACTGT  TCTGCTAACCA
361  TCATCACAGA  CTGGGTCTAC  CAGGGTGGCA  GCGTCCAGHC  CAGACAGACC  GGAATGGTGA
421  GATGGCCCTG  CACCTTGCAG  CCGGCTACTC  AGGGGCTGAT  GCTGCCAAGC  GTCTCCTGGA
481  TGCAGGTGCA  GATGCCAATG  CCGAGGACAA  CATGGGCCCG  TGTCACCTCC  ATGCTGCACT
541  GGCACGTGAT  GCGAGGTGT  ATTCAATCT  GATA

```

C.

```

1  TCCAGATTCT  GATTCGCAC  CGGCTAAGTG  ATCTAGATGC  CAGGATGAT  GATGGTACTA
61  CACCCCTGAT  CCTGGCTGCC  CGGCTGGCTG  TGGAGGGGAT  GGTGGCAGAA  CTGATCAACT
121  GCGAGGCGGA  TGTGAATGCA  GTGGATGACC  ATGGAAAAAT  TGCTCTTCA  TGGGCAAGCTG
181  CTGTCATTA  TGTGGAGGCA  ACTCTTTTGT  TGTGAAAAA  TGGGCCAAC  CCGACATGCG
241  AGGACACAA  GGAAGAGCA  CCTCTGTTTC  TTGCTGCCCC  GAGGAGGCTA  TAAAGC

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7326-015 (Sheet 12 of 44)

FIG. 9 A-B

A.

```

1  GATTCCATT  CAGGAGGAA  GGGTGGGGG  AGAGGCAGG  ACCCACTTC  CCGTGGCTG
61  ACTCGTTCC  AGGTGGCTC  ACCGGCAGC  GTGACCGCC  CAGGTGGGG  CCGAGTGCC
121  TTCAGAAAT  TCCAGAAAG  CCTACCCCA  ACTCGGACG  CAGGCTCAG  CCGTGGGTA
181  GCACTGGCA  CACAAACAG  CAGCGTGCT  GGGGCACGG  GGGATGGCA  CCCCTGCAG
241  CAGAGCTG

```

B.

```

1  CTAAAGGGA  CAAAGCGGG  AGCTCCACC  CCGGCGGCG  AGCTCTAGA  CTAGTGGAH
61  HCCCGGGCT  CAGGATTCC  GCGGACTGG  GCTCGGGCT  AGAGCGGCG  TGTGAGGAG
121  ATTCTAGAC  GGGAGACAA  GCGATGGCT  GACAGCTGG  CTCCAAAGT  ACCAGGCTA
181  AATCGCTCG  CCTGGACAT  GAGCGATGA  GAGGATCAG  ACCGGTACC  GATGGGATG
241  ACTCGGATT  ACAGCATGA  CCAGCCTGT  TACAGGGAG  GTGAAHTTT  CACATGCAG
301  CGACAGAC  GAGCTCTAT  CAT

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7326-015 (Sheet 13 of 44)

FIG. 10

```

      10      20      30      40
      *      *      *      *
TGC CAG GAG GAC GCG GGC AAC AAG GTC TGC AGC CTG CAG TGC AAC AAC
C   Q   E   D   A   G   N   K   V   C   S   L   Q   C   N   N>

50      60      70      80      90
      *      *      *      *      *
CAC GCG TGC GGC TGG GAC GGC GGT GAC TGC TCC CTC AAC TTC AAT GAC
H   A   C   G   W   D   G   G   D   C   S   L   N   F   N   D>

100     110     120     130     140
      *      *      *      *      *
CCC TGG AAG AAC TGC ACG CAG TCT CTG CAG TGC TGG AAG TAC TTC AGT
P   W   K   N   C   T   Q   S   L   Q   C   W   K   Y   F   S>

150     160     170     180     190
      *      *      *      *      *
GAC GGC CAC TGT GAC AGC CAG TGC AAC TCA GCC GGC TGC CTC TTC GAC
D   G   H   C   D   S   Q   C   N   S   A   G   C   L   F   D>

200     210     220     230     240
      *      *      *      *      *
GGC TTT GAC TGC CAG CGT GCG GAA GCC CAG TGC AAC CCC CTG TAC GAC
G   F   D   C   Q   R   A   E   G   Q   C   N   P   L   Y   D>

250     260     270     280
      *      *      *      *
CAG TAC TGC AAG GAC CAC TTC AGC GAC GGG CAC TGC GAC CAG GGC TGC
Q   Y   C   K   D   H   F   S   D   G   H   C   D   Q   G   C>

290     300     310     320     330
      *      *      *      *      *
AAC AGC GCG GAG TGC GAG TGG GAC GGG CTG GAC TGT GCG GAG CAT GTA
N   S   A   E   C   E   W   D   G   L   D   C   A   E   H   V>

340     350     360     370     380
      *      *      *      *      *
CCC GAG AGG CTG GCG GCC GGC ACG CTG GTG GTG GTG GTG CTG ATG CCG
P   E   R   L   A   A   G   T   L   V   V   V   V   L   M   P>

390     400     410     420     430
      *      *      *      *      *
CCG GAG CAG CTG CGC AAC AGC TCC TTC CAC TTC CTG CGG GAG CTC AGC
P   E   Q   L   R   N   S   S   F   H   F   L   R   E   L   S>

440     450     460     470     480
      *      *      *      *      *
CGC GTG CTG CAC ACC AAC GTG GTC TTC AAG CGT GAC GCA CAC GGC CAG
R   V   L   H   T   N   V   V   F   K   R   D   A   H   G   Q>

490     500     510     520
      *      *      *      *
CAG ATG ATC TTC CCC TAC TAC GGC CGC GAG GAG GAG CTG CGC AAG CAC
Q   M   I   F   P   Y   Y   G   R   E   E   E   L   R   K   H>

530     540     550     560     570
      *      *      *      *      *
CCC ATC AAG CGT GCC GCC GAG GGC TGG GCC GCA CCT GAC GCC CTG CTG
P   I   K   R   A   A   E   G   W   A   A   P   D   A   L   L>

```

## FIG. 10 CONT'D

```

580      590      600      610      620
*      *      *      *      *
GGC CAG GTG AAG GCC TCG CTG CTC CCT GGT GGC AGC GAG GGT GGG CGG
G  Q  V  K  A  S  L  L  P  G  G  S  E  G  G  R>

630      640      650      660      670
*      *      *      *      *
CGG CGG AGG GAG CTG GAC CCC ATG GAC GTC CGC GGC TCC ATC GTC TAC
R  R  R  E  L  D  P  M  D  V  R  G  S  I  V  Y>

680      690      700      710      720
*      *      *      *      *
CTG GAG ATT GAC AAC CGG CAG TGT GTG CAG GCC TCC TCG CAG TGC TTC
L  E  I  D  N  R  Q  C  V  Q  A  S  S  Q  C  F>

730      740      750      760
*      *      *      *
CAG AGT GCC ACC GAC GTG GCC GCA TTC CTG GGA GCG CTC GCC TCG CTG
Q  S  A  T  D  V  A  A  F  L  G  A  L  A  S  L>

770      780      790      800      810
*      *      *      *      *
GGC AGC CTC AAC ATC CCC TAC AAG ATC GAG GCC GTG CAG AGT GAG ACC
G  S  L  N  I  P  Y  K  I  E  A  V  Q  S  E  T>

820      830      840      850      860
*      *      *      *      *
GTG GAG CCG CCC CCG CCG GCG CAG CTG CAC TTC ATG TAC GTG GCG GCG
V  E  P  P  P  P  A  Q  L  H  F  M  Y  V  A  A>

870      880      890      900      910
*      *      *      *      *
GCC GCC TTT GTG CTT CTG TTC TTC GTG GGC TGC GGG GTG CTG CTG TCC
A  A  F  V  L  L  F  F  V  G  C  G  V  L  L  S>

920      930      940      950      960
*      *      *      *      *
CGC AAG CGC CGG CGG CAG CAT GGC CAG CTC TGG TTC CCT GAG GGC TTC
R  K  R  R  R  Q  H  G  Q  L  W  F  P  E  G  F>

970      980      990      1000
*      *      *      *
AAA GTG TCT GAG GCC AGC AAG AAG AAG CGG CGG GAG CCC CTC GGC GAG
K  V  S  E  A  S  K  K  K  R  R  E  P  L  G  E>

1010      1020      1030      1040      1050
*      *      *      *      *
GAC TCC GTG GGC CTC AAG CCC CTG AAG AAC GCT TCA GAC GGT GCC CTC
D  S  V  G  L  K  P  L  K  N  A  S  D  G  A  L>

1060      1070      1080      1090      1100
*      *      *      *      *
ATG GAC GAC AAC CAG AAT GAG TGG GGG GAC GAG GAC CTG GAG ACC AAG
M  D  D  N  Q  N  E  W  G  D  E  D  L  E  T  K>

1110      1120      1130      1140      1150
*      *      *      *      *
AAG TTC CGG TTC GAG GAG CCC GTG GTT CTG CCT GAC CTG GAC GAC CAG
K  F  R  F  E  E  P  V  V  L  P  D  L  D  D  Q>

1160      1170      1180      1190      1200
*      *      *      *      *

```

## FIG. 10 CONT'D

ACA GAC CAC CGG CAG TGG ACT CAG CAG CAC CTG GAT GCC GCT GAC CTG  
 T D H R Q W T Q Q H L D A A D L>

1210 1220 1230 1240  
 \* \* \* \*  
 CGC ATG TCT GCC ATG GCC CCC ACA CCG CCC CAG GGT GAG GTT GAC GCC  
 R M S A M A P T P P Q G E V D A>

1250 1260 1270 1280 1290  
 \* \* \* \* \*  
 GAC TGC ATG GAC GTC AAT GTC CGC GGG CCT GAT GGC TTC ACC CCG CTC  
 D C M D V N V R G P D G F T P L>

1300 1310 1320 1330 1340  
 \* \* \* \* \*  
 ATG ATC GCC TCC TGC AGC GGG GGC GGC CTG GAG ACG GGC AAC AGC GAG  
 M I A S C S G G G L E T G N S E>

1350 1360 1370 1380 1390  
 \* \* \* \* \*  
 GAA GAG GAG GAC GCG CCG GCC GTC ATC TCC GAC TTC ATC TAC CAG GGC  
 E E E D A P A V I S D F I Y Q G>

1400 1410 1420 1430 1440  
 \* \* \* \* \*  
 GCC AGC CTG CAC AAC CAG ACA GAC CGC ACG GGC GAG ACC GCC TTG CAC  
 A S L H N Q T D R T G E T A L H>

1450 1460 1470 1480  
 \* \* \* \* \*  
 CTG GCC GCC CGC TAC TCA CGC TCT GAT GCC GCC AAG CGC CTG CTG GAG  
 L A A R Y S R S D A A K R L L E>

1490 1500 1510 1520 1530  
 \* \* \* \* \*  
 GCC AGC GCA GAT GCC AAC ATC CAG GAG AAC ATG GGC CGC ACC CCG CTG  
 A S A D A N I Q D N M G R T P L>

1540 1550 1560 1570 1580  
 \* \* \* \* \*  
 CAT GCG GCT GTG TCT GCC GAC GCA CAA GGT GTC TTC CAG ATC CTG ATC  
 H A A V S A D A Q G V F Q I L I>

1590 1600 1610 1620 1630  
 \* \* \* \* \*  
 CGG AAC CGA GCC ACA GAC CTG GAT GCC CGC ATG CAT GAT GGC ACG ACG  
 R N R A T D L D A R M H D G T T>

1640 1650 1660 1670 1680  
 \* \* \* \* \*  
 CCA CTG ATC CTG GCT GCC CGC CTG GCC GTG GAG GGC ATG CTG GAG GAC  
 P L I L A A R L A V E G M L E D>

1690 1700 1710 1720  
 \* \* \* \* \*  
 CTC ATC AAC TCA CAC GCC GAC GTC AAC GCC GTA GAT GAC CTG GGC AAG  
 L I N S H A D V N A V D D L G H>

1730 1740 1750 1760 1770  
 \* \* \* \* \*  
 TCC GCC CTG CAC TGG GCC GCC GCC GTG AAC AAT GTG GAT GCC GCA GTT  
 S A L H W A A A V N H V D A A V>

7326-015 (Sheet 16 of 44)

## FIG. 10 CONT'D

1780	1790	1800	1810	1820
GTG	CTC	CTG	AAG	AAC
V	L	L	K	N
GGG	GCT	AAC	AAA	GAT
G	A	N	K	D
ATG	CAG	AAC	AAC	AGG
M	Q	N	N	R
GAG				E>
1830	1840	1850	1860	1870
GAG	ACA	CCC	CTG	TTT
E	T	P	L	F
CTG	CTG	GCC	GCC	CGG
L	L	A	A	R
GAG	GGC	AGC	TAC	GAG
E	G	S	Y	E
ACC	GCC			A>
1880	1890	1900	1910	1920
AAG	GTG	CTG	CTG	GAC
K	V	L	L	D
CAC	TTT	GCC	AAC	CGG
H	F	A	N	R
GAC	ATC	ACG	GAT	CAT
D	I	T	D	H
ATG				M>
1930	1940	1950	1960	
GAC	CGC	CTG	CCG	CGC
D	R	L	P	R
GAC	ATC	GCA	CAG	GAG
D	I	A	Q	E
CGC	ATG	CAT	CAC	GAC
R	M	H	H	D
ATC				I>
1970	1980	1990	2000	2010
GTG	AGG	CTG	CTG	GAC
V	R	L	L	D
GAG	TAC	AAC	CTG	GTG
E	Y	N	L	V
CGC	AGC	CCG	CAG	CTG
R	S	P	Q	L
CAC				M>
2020	2030	2040	2050	2060
GGA	GCC	CCG	CTG	GGG
G	A	P	L	G
GGC	ACG	CCC	ACC	CTG
G	T	P	T	L
TCG	CCC	CCG	CTC	TGC
S	P	P	L	C
TCG				S>
2070	2080	2090	2100	2110
CCC	AAC	GGC	TAC	CTG
P	N	G	Y	L
GGC	AGC	CTC	AAG	CCC
G	S	L	K	P
GGC	GTG	CAG	GGC	AAG
G	V	Q	G	K
AAG				R>
2120	2130	2140	2150	2160
GTC	CGC	AAG	CCC	AGC
V	R	K	P	S
AGC	AGC	AAA	GGC	CTG
S	S	K	G	L
GCC	TGT	GGA	AGC	AAG
A	C	G	S	K
GAG				E
GCC				A>
2170	2180	2190	2200	
AAG	GAC	CTC	AAG	GCA
K	D	L	K	A
CGG	AGG	AAG	AAG	TCC
R	R	K	K	S
CAG	GAT	GGC	AAG	GGC
Q	D	G	K	G
TGC				C>
2210	2220	2230	2240	2250
CTG	CTG	GAC	AGC	TCC
L	L	D	S	S
GGC	ATG	CTC	TCG	CCC
G	M	L	S	P
GTG	GAC	TCC	CTG	GAG
V	D	S	L	E
TCA				S>
2260	2270	2280	2290	2300
CCC	CAT	GGC	TAC	CTG
P	H	G	Y	L
TCA	GAC	GTG	GCC	TCG
S	D	V	A	S
CCG	CCA	CTG	CTG	CCC
P	P	L	L	P
TCC				S>
2310	2320	2330	2340	2350
CCG	TTC	CAG	CAG	TCT
P	F	Q	Q	S
CCG	TCC	GTG	CCC	CTC
P	S	V	P	L
AAC	CAC	CTG	CCT	GGG
N	H	L	P	G
ATG				M>
2360	2370	2380	2390	2400



7326-015 (Sheet 17 of 44)

FIG. 10 CONT'D

```

*   *   *   *   *   *   *   *   *   *   *   *   *   *
CCC GAC ACC CAC CTG GGC ATC GGG CAC CTG AAC GTG GCG GCC AAG CCC
P   D   T   H   L   G   I   G   H   L   N   V   A   A   K   P>

      2410      2420      2430      2440
*   *   *   *   *   *   *   *   *   *   *   *   *   *
GAG ATG GCG GCG CTG GGT GGG GGC GGC CGG CTG GCC TTT GAG ACT GGC
E   M   A   A   L   G   G   G   G   R   L   A   F   E   T   G>

2450      2460      2470      2480      2490
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CCA CCT CGT CTC TCC CAC CTG CCT GTG GCC TCT GGC ACC AGC ACC GTC
P   P   R   L   S   H   L   P   V   A   S   G   T   S   T   V>

      2500      2510      2520      2530      2540
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CTG GGC TCC AGC AGC GGA GGG GCC CTG AAT TTC ACT GTG GGC GGG TCC
L   G   S   S   S   G   G   A   L   N   F   T   V   G   G   S>

      2550      2560      2570      2580      2590
*   *   *   *   *   *   *   *   *   *   *   *   *   *
ACC AGT TTG AAT GGT CAA TGC GAG TGG CTG TCC CGG CTG CAG AGC GGC
T   S   L   N   G   Q   C   E   W   L   S   R   L   Q   S   G>

      2600      2610      2620      2630      2640
*   *   *   *   *   *   *   *   *   *   *   *   *   *
ATG GTG CCG AAC CAA TAC AAC CCT CTG CGG GGG AGT GTG GCA CCA GGC
M   V   P   N   Q   Y   N   P   L   R   G   S   V   A   P   G>

      2650      2660      2670      2680
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CCC CTG AGC ACA CAG GCC CCC TCC CTG CAG CAT GGC ATG GTA GGC CCG
P   L   S   T   Q   A   P   S   L   Q   H   G   M   V   G   P>

2690      2700      2710      2720      2730
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CTG CAC AGT AGC CTT GCT GCC AGC GCC CTG TCC CAG ATG ATG AGC TAC
L   H   S   S   L   A   A   S   A   L   S   Q   M   M   S   Y>

      2740      2750      2760      2770      2780
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CAG GGC CTG CCC AGC ACC CGG CTG GCC ACC CAG CCT CAC CTG GTG CAG
Q   G   L   P   S   T   R   L   A   T   Q   P   H   L   V   Q>

      2790      2800      2810      2820      2830
*   *   *   *   *   *   *   *   *   *   *   *   *   *
ACC CAG CAG GTG CAG CCA CAA AAC TTA CAG ATG CAG CAG CAG AAC CTG
T   Q   Q   V   Q   P   Q   N   L   Q   M   Q   Q   Q   N   L>

      2840      2850      2860      2870      2880
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CAG CCA GCA AAC ATC CAG CAG CAG CAA AGC CTG CAG CCG CCA CCA CCA
Q   P   A   H   I   Q   Q   Q   Q   S   L   Q   P   P   P   P>

      2890      2900      2910      2920
*   *   *   *   *   *   *   *   *   *   *   *   *   *
CCA CCA CAG CCG CAC CTT GGC GTG AGC TCA GCA GCC AGC GGC CAC CTG
P   P   Q   P   H   L   G   V   S   S   A   A   S   G   H   I>

2930      2940      2950      2960      2970
*   *   *   *   *   *   *   *   *   *   *   *   *   *
GGC CGG AGC TTC CTG AGT GGA GAG CCG AGC CAG GCA GAC GTG CAG CCA

```

7326-015 (Sheet 18 of 44)

## FIG. 10 CONT'D

G R S F L S G E P S Q A D V Q P>  
 2980 2990 3000 3010 3020  
 \* \* \* \* \*  
 CTG GGC CCC AGC AGC CTG GCG GTG CAC ACT ATT CTG CCC CAG GAG AGC  
 L G P S S L A V H T I L P Q E S>  
 3030 3040 3050 3060 3070  
 \* \* \* \* \*  
 CCC GCC CTG CCC ACG TCG CTG CCA TCC TCG CTG GTC CCA CCC GTG ACC  
 P A L P T S L P S S L V P P V T>  
 3080 3090 3100 3110 3120  
 \* \* \* \* \*  
 GCA GCC CAG TTC CTG ACG CCC CCC TCG CAG CAC AGC TAC TCC TCG CCT  
 A A Q F L T P P S Q H S Y S S P>  
 3130 3140 3150 3160  
 \* \* \* \* \*  
 GTG GAC AAC ACC CCC AGC CAC CAG CTA CAG GTG CCT GTT CCT GTA ATG  
 V D N T P S H Q I Q V P V P V M>  
 3170 3180 3190 3200 3210  
 \* \* \* \* \*  
 GTA ATG ATC CGA TCT TCG GAT CCT TCT AAA GGC TCA TCA ATT TTG ATC  
 V M I R S S D P S K G S S I L I>  
 3220 3230  
 \* \* \*  
 GAA GCT CCC GAC TCA TGG  
 E A P D S W>

7326-015 (Sheet 19 of 44)

FIG. 11

G GAG GTG GAT GTG TTA GAT GTG AAT CTC CGT GGC CCA GAT GGC TGC Glu Val Asp Val Leu Asp Val Asp Val Arg Gly Pro Asp Gly Cys 1 5 10 15	46
AAC CCA TGC ATC TGC GGT TGT CTC CCA CCA GGC AGC TCA GAT TGC AGT Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser 20 25 30	94
GAT GAA GAT GAA GAT CCA GAG GAC TCT TCT GGT AAC ATC ATC ACA GAC Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala Asp Ile Ile Thr Asp 35 40 45	142
TTC GTC TAC CAC GGT GGC AAC CTC CAG GGC CAG ACA CAC GCG AGT GGT Leu Val Tyr Glu Gly Ala Ser Leu Glu Ala Glu Thr Asp Arg Thr Gly 50 55 60	190
GAG ATC GCG CTC GAC GTT CCA GCG GCG TAC TCA CCG GGT GAT GGT GCG Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala 65 70 75	238
AAC CGT CTC CTC GAT CCA GGT CCA GAT GCG AAT GCG CAG GAC AAC ATC Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asp Ala Glu Asp Asp Met 80 85 90 95	286
GCG GCG TGT CCA CTC GAT GGT CCA GTG CCA GGT GAT GCG CAA GGT GTC Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala Asp Ala Glu Gly Val 100 105 110	334
TTT CAC ATT CTC ATT GCG AAC CCA GTA ACT GAT GTA GAT GCG ACC ATC Phe Glu Ile Leu Ile Arg Asp Arg Val Thr Asp Leu Asp Ala Arg Met 115 120 125	382
AAT GAT GGT ACT ACA CCG CTC ATC CTC GGT GCG GCG CTC GGT GTC GAG Asp Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu 130 135 140	430
GCA ATC GTG CCA GAA CTC ATC AAC TGC CAA GCG GAT GTG AAT CCA GTC Gly Met Val Ala Glu Leu Ile Asp Cys Glu Ala Asp Val Asp Ala Val 145 150 155	478
GAT GAG GAT CCA AAA TCT GGT GTT CAC TGC CCA GGT GGT GTC AAT AAT Asp Asp His Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asp Asp 160 165 170 175	526
GTC GAG CCA ACT GTT TTG TTG TTG AAA AAT GCG GCG AAC CCA GAC ATC Val Glu Ala Thr Leu Leu Leu Leu Lys Asp Gly Ala Asp Arg Asp Met 180 185 190	574
CAC GAC AAC AAC GAA GAG ACA GGT CTC TTT GTT GGT GCG GCG GAG GCG Glu Asp Asp Lys Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly 195 200 205	622
AGC TAT GAA CCA GCG AAC ATC CTC TTA GAG GAT TTT GCG AAT CCA GAC Ser Tyr Glu Ala Ala Lys Ile Leu Leu Asp His Phe Ala Asp Arg Asp 210 215 220	670
ATC ACA GAC GAT ATC GAT GGT GTT CCC GCG GAT GTC GGT GCG GAT GCG Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Val Ala Arg Asp Arg 225 230 235	718
ATC CAC GAT GAC ATT CTC GCG GTT CTC GAT GAA TAC AAT GTC ACC CCA Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr Asp Val Thr Pro 240 245 250 255	766

7326-015 (Sheet 20 of 44)

## FIG. 11 CONT'D

ACC	CCT	CCA	GGC	ACC	GTC	TTC	ACT	TCT	GCT	CTC	TCA	CCT	GTC	ATC	TGT	014
Ser	Pro	Pro	Gly	The	Val	Leu	Thr	Ser	Ala	Leu	Ser	Pro	Val	Ile	Cys	
				260					265					270		
GGG	CCC	AAC	AGA	TCT	TTC	CTC	AGC	GTC	AAG	CAC	AGC	CCA	ATC	CCC	AAG	062
Gly	Pro	Asn	Arg	Ser	Phe	Leu	Ser	Leu	Lys	His	Thr	Pro	Met	Gly	Lys	
			275					280					285			
AAG	TCT	AGA	CCC	CCC	AGT	GCC	AAG	AGT	ACC	ATC	CCT	ACT	AGC	GTC	CCT	910
Lys	Ser		Arg	Pro	Ser	Ala	Lys	Ser	Thr	Met	Pro	Thr	Ser	Leu	Pro	
			290				295					300				
AAC	CTT	CCC	AAC	GAG	GCA	AAG	GAT	GCC	AAG	GGT	AGT	AGC	AGC	AAC	AAC	950
Asn	Leu	Ala	Lys	Glu	Ala	Lys	Asp	Ala	Lys	Gly	Ser	Arg	Arg	Lys	Lys	
	305					310				315						
TCT	CTC	AGT	GAG	AAG	GTC	CAA	CTC	TCT	GAG	AGT	TCA	GTA	AGT	TTA	TCC	1006
Ser	Leu	Ser	Glu	Lys	Val	Glu	Leu	Ser	Glu	Ser	Ser	Val	Thr	Leu	Ser	
	320			325					330						335	
CCT	GTT	GAT	TCC	CTA	CAA	TCT	CCT	CAC	AGC	TAT	GTT	TCC	GAC	ACC	ACA	1054
Pro	Val	Asp	Ser	Leu	Glu	Ser	Pro	His	Thr	Tyr	Val	Ser	Asp	Thr	Thr	
				340					345					350		
TCC	TCT	CCA	ATC	ATT	ACA	TCC	CCT	GGG	ATC	TTA	CAG	CCC	TCA	CCC	AAC	1102
Ser	Ser	Pro		Met	Ile	Thr	Ser	Pro	Gly	Ile	Leu	Glu	Ala	Ser	Pro	
				355					360				365			
CCT	ATC	TTC	CCC	AGT	GCC	GCC	CCT	CCT	GCC	CCA	GTC	CAT	CCC	CAG	CAT	1150
Pro	Met		Leu	Ala	Thr	Ala	Ala	Pro	Ala	Pro	Val	His	Ala	Glu	His	
			370				375					380				
CCA	CTA	TCT	TTT	TCT	AAC	CTT	CAT	GAA	ATC	CAG	CCT	TTC	GCA	CAT	GGG	1198
Ala	Leu	Ser	Phe	Ser	Asn	Leu	His	Glu	Met	Glu	Pro	Leu	Ala	His	Gly	
	385					390					395					
CCC	AGC	ACT	GTC	CTT	CCC	TCA	GTC	AGC	CAG	TTC	CTA	TCC	CAC	CAC	CAC	1246
Ala	Ser	Thr	Val	Leu	Pro	Ser	Val	Ser	Glu	Leu	Leu	Ser	His	His	His	
	400				405				410						415	
ATT	GTC	TCT	CCA	GGC	AGT	GCC	AGT	CCT	GGA	AGC	TTC	AGT	AGC	CTC	CAT	1294
Ile	Val	Ser	Pro	Gly	Ser	Gly	Ser	Ala	Gly	Ser	Leu	Ser	Arg	Leu	His	
				420				425						430		
CCA	GTC	CCA	GTC	CCA	GCA	GAT	TGG	ATC	AAC	CCC	ATC	CAG	GTC	AAT	GAG	1342
Pro	Val	Pro	Val	Pro	Ala	Asp	Tyr	Met	Asn	Arg	Met	Glu	Val	Asn	Glu	
			435				440						445			
ACC	CAG	TAC	AAT	GAG	ATC	TTT	GCT	ATC	GTC	CTC	CCT	CCA	CCT	CAG	GGC	1390
Thr	Glu	Tyr	Asn	Glu	Met	Phe	Gly	Met	Val	Leu	Ala	Pro	Ala	Glu	Gly	
		450					455					460				
ACC	CAT	CCT	GGC	ATA	GCT	CCC	CAG	AGC	AGC	CCA	CCT	GAA	GGC	AAG	CAC	1438
Thr	His	Pro	Gly	Ile	Ala	Pro	Glu	Ser	Arg	Pro	Pro	Glu	Gly	Lys	His	
		465				470					475					
ATA	AGC	AAC	CCT	GGC	GAG	CCC	TTC	CCC	CCC	ATT	GTC	AGT	TTC	CAG	CTC	1486
Ile	Thr	Thr	Pro	Arg	Glu	Pro	Leu	Pro	Pro	Ile	Val	Thr	Phe	Glu	Leu	
			480			485				490					495	
ATC	CCG	AAA	CCC	AGT	ATT	GCC	CAA	CCA	GCC	GGC	GCT	CCC	CAG	CCT	CAG	1534
Ile	Pro	Lys	Gly	Ser	Ile	Ala	Glu	Pro	Ala	Gly	Ala	Pro	Glu	Pro	Glu	
				500					505					510		
TCC	AGC	TCC	CCT	CCA	GCT	GTT	GCC	GGC	CCC	CTC	CCC	ACC	ATC	TAC	CAG	1582
Ser	Thr	Cys	Pro	Pro	Ala	Val	Ala	Gly	Pro	Leu	Pro	Thr	Met	Tyr	Glu	
			515					520					525			
ATT	CCA	GAA	ATC	GGC	CCT	TTC	CCC	AGT	GTC	GCT	TTC	CCC	ACT	GCC	ATC	1630
Ile	Pro	Glu	Met	Ala	Arg	Leu	Pro	Ser	Val	Ala	Phe	Pro	Thr	Ala	Met	
		530					535						540			

7326-015 (Sheet 21 of 44)

## FIG. // CONT'D

ATG CCC CAG CAG GAC GGG CAG GTA GCT CAG ACC ATT CTC CCA GCC TAT Met Pro Gln Gln Arg Gly Gln Val Ala Gln Thr Ile Leu Pro Ala Tyr 545 550 555	1678
CAT CCT TTC CCA GGC TCT GTG GGC AAG TAC CCC ACA CCC CCT TCA CAG Ile Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro Thr Pro Pro Ser Gln 560 565 570 575	1726
CAC AGT TAT GCT TCC TCA AAT GCT GCT GAG CGA ACA CCC AGT CAC AGT Ile Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg Thr Pro Ser Ile Ser 580 585 590	1774
GGT CAC CTC CAG GGT GAG CAT CCC TAC CTG ACA CCA TCC CCA GAG TCT Gly Ile Leu Gln Gly Gln Ile Pro Tyr Leu Thr Pro Ser Pro Glu Ser 595 600 605	1822
CCT CAC CAG TGG TCA AGT TCA TCA CCC CAC TCT GCT TCT CAC TGG TCA Pro Arg Gln Trp Ser Ser Ser Ser Pro Ile Ser Ala Ser Arg Trp Ser 610 615 620	1870
CAT GTG ACC ACC ACC CCT ACC CCT GGG GGT GCT CGA GCA GGT CAG CGG Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala Gly Gly Gly Glu Arg 625 630 635	1918
GCA CCT GGG ACA CAC ATG TCT GAG CCA CCA CAC AAC AAC ATG CAG GTT Gly Pro Gly Thr Ile Met Ser Glu Pro Pro Ile Asn Asn Met Gln Val 640 645 650 655	1966
TAT GCG TGAAGAGATC CACCTCCAGT GTAGAGACAT AACAGACTTT TGTAAATGCT Tyr Ala	2022
GCTCAGGAAC AAATGAAAGT CATCCCGGAG AGAAATGAAAG AAATCTCTGG AGCCAGCTTC TACAGGTACG AAAGAGAAAG TGTCTTATT CAGATAATGC AACAGAAAGCA ATTCGTCAGT TTCACCTGGT ATCTGCAAGG CTATATGATT ATTCTAATCT AATAAGACAA GTTGTGGAA ATGCAAGATG AATACAAAGC TTGGGTCCAT GTTACCTCTC TTCTATTGG AGAATAAGAT GGATGCTAT TGAAGCCGAG ACAATCTTGC AGCTTGGACT GCATTTTAAAG CCCTCAGGC TTCCTCCATA TCCATGAGAA GATTCTACAC TAGCGTCTG TTGGGAATTA TCCCTCGAA TTCCTGCCGA ATTGACCTAC GCATCTCTC CTCCTTGGAG ATTCTTTGT CTTCATTGG TGCCTTTGGT TTTCACCTC TCGGTGATG TAGCCCTACC AGCATGTTAT AGGGCAAGAC CTTTGTGCTT TTGATCATTC TGGCCCATGA AAGCAACTTT GGTCTCCTTT CCCCTCCTGT CTTCCCGGTA TCCCTTGGAG TCTCACAAGG TTTACTTTGG TAGGTCTCTC AGCACAAGCC TTTCAAGTAT GTTGTITCTT TGGAAAATGG ACATACTGTA TGTGTCTCTC CTGCATATAT CATTCCTGCA CAGAGAAAGG GAGAAAGATA CTTTCCTTCA ACMAATTTTG GGGGCAGGAG ATCCCTTCAA GAGGCTGCAC CTAAATTTT CTGTCTGTG TGCAGGTCTT CATATAAACT TTACCAGGAA GAAGGGTGTG AGTTTGTGT TTTCTGTGT ATGGGCTCG TCACTGTAAA GTTTTATCCT TCATAGTCTA GTTACTATGA CCTCCCCAC TTTTTAAAA CAGAAAAAG GTTTGAATG TTGGAATGAC CAAGAGACAA GTTAACTCGT GCAAGAGCCA GTTACCCACC CACAGGTCCC CTAATTCCT GGCAGGCAAT CCAATGACTG CCTGTATGGA ACACATTTGT CCCAGATCTG AGCATCTAG CCGTGTTC ACTACTACCC CAGCATATGA AACTAGTCTT AACTGTTGAG CTTTTCTTT CATATCCACA GAAGAGACTG TCTCAAAATG TGTACCTTC	2082 2142 2202 2262 2322 2382 2442 2502 2562 2622 2682 2742 2802 2862 2922 2982 3042 3102 3162

7326-015 (Sheet 22 of 44)

## FIG. 11 CONT'D

CCATTTAGGA CTGAACCTTC CTAGCCCCAA GGGACCCACT GACAGTGTTC TTCCGTTTGT	3222
CAGATGATCA GTCTCTACTG ATTATCTTGC TGCTTAAAGG CCCTGCTACC AATCTTTCTT	3282
TCACACCGTG TGGTCCGTTT TACTGGTATA CCCAGTATGT TCTCACTGAA GACATGGACT	3342
TTATATGTTT AAGTCCAGGA ATTGGAAAGT TGGACTTGTT TTCTATGATC CAAAACAGCC	3402
CTATAAGGAG GTTGGAAAAG GAGGAACAT ATAGCAGCCT TTGCTATTTT CTGCTACCAT	3462
TTCTTTTCCT CTGAAGCGGC CATGACATTC CCTTTGGCAA CTAAAGTAGA AACTCAACAG	3522
AACATTTTCC TTTCCTAGAG TCACCTTTTA GATGATAATG GACAACTATA GACTTGCTCA	3582
TGTTTCAGAC TGATTGCCCC TCACCTGAAT CCACCTCTCT TATTCACTCT CTTCGCAATT	3642
TCTTTGACTT TCTTTTAAAG GCAGAAAGCA TTTAGTTAAT TGTAGATAAA GAATAGTTTT	3702
CTTCCCTGTC TGCTTGGGGC AGTTAATAAT TGGTCCATGG CTACAGTCCA ACTTCCGTCC	3762
AGTCCCTGTA TGGCCATGAC ACCTGCAAAA TAAGTTCTGC CTGGCCATTT TGTAGATATT	3822
AACAGGTGAA TTCCCGACTC TTTTGGTTTG AATGACAGTT CTCATTCTTT CTATGGCTGC	3882
AAGTATGCAAT CAGTGCCTCC CACTACCTG ATTTGTCTGT CGGTGGCCCC ATATGGAAAC	3942
CGTGGGTGTC TGTTGGCATA ATAGTTTACA AATGGTTTTT TCAGTCCAT CCAAATTTAT	4002
TGAACCAACA AAAATTAATA CTCTGCCCCT GAGATAAGCA GATTAAAGTT GTTCATTCTC	4062
TGCTTTATTC TCTCCATGTG GCAACATTCT CTCAGCCTCT TTCTATGTGT GCAAAATTTT	4122
TATCATTTCTA AATGGTGACT CTCTGCCCTT GGACCCATTT ATTATTACA GATGGGGAGA	4182
ACCTATCTGC ATGGACCCCT ACCATCCTCT GTGCAGCACA CACAGTGCAG GGAGCCAGTG	4242
GGGATGGCGA TGACTTTCTT CCCCCTC	4268



7326-015 (Sheet 24 of 44)

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PEST-containing Region

FIG. 128 CONT'D



FIG. 13

hum H	MP	-----ALRALP LMAALLALALC CA-----APA HA	Potential signal cleavage site	EGF-like Repeats	OCRODYPCV NZKQVTVYH QYQYQCPED FLEYQCHRD PCE-KNCON OGTC--VAQA	93
TAN-1	MD	-----PL LAPILCLALL PA-----LAA RG			RCQSQPQETCL NQKCEA-AN GTACVQCGA FQPRQCPDN PCL-STPCKN AGTCVHVDAR	80
Xen H	MOQSQRBRAS	RAPNTWICFW INNHAVASL PASLPLLLLT LAFANLNV RGTOTALVA			RCQSQPQETCL NQKCEA-AN GTACVQCGA FQPRQCPDN PCL-STPCKN AGTCVHVDAR	80
Dros H					RCQSQPQETCL NQKCEA-AN GTACVQCGA FQPRQCPDN PCL-STPCKN AGTCVHVDAR	117
hum H					HLGATCRCA SOFTGDCQY STSHPCFVSR PLNGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	199
TAN-1					NEVQSTVVC RATHQPNCE RPVPCSPBP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	196
Xen N					NEVQSTVVC RATHQPNCE RPVPCSPBP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	195
Dros N					NEVQSTVVC RATHQPNCE RPVPCSPBP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	213
hum N					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	315
TAN-1					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	315
Xen N					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	314
Dros N					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	352
hum N					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	438
TAN-1					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	438
Xen N					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	433
Dros N					NGVQYQVQV QGFTQYQCD SLVPCAPSP CANGQTCCHM LSROT-YECT COVGTGKEC QMTDACLNSP CANGSTCTTV --ANQFSKNC LQTSFQCKE TDVNEC-DIP QHCQHGCTCL	470
hum H					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	558
TAN-1					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	558
Xen H					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	553
Dros H					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	590
hum N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	677
TAN-1					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	677
Xen N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	672
Dros N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	710
hum N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	756
TAN-1					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	756
Xen N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	792
Dros N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	830
hum N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	914
TAN-1					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	914
Xen N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	909
Dros N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	949
hum N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1024
TAN-1					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1024
Xen N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1021
Dros N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1069
hum N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1154
TAN-1					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1154
Xen N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1151
Dros N					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1149
					AFHCEALQY AGRPCBNDIN ECHSDPCQND ATCLQKQGF TGLCHQPFHQA VHCLEIHEEC QSNPCVQNGO CYDQVNFQC LCPHPTQPV QOIIDQSS TPLQNGAKCI DHPNVEYQCC	1168

## FIG. 13 CONT'D

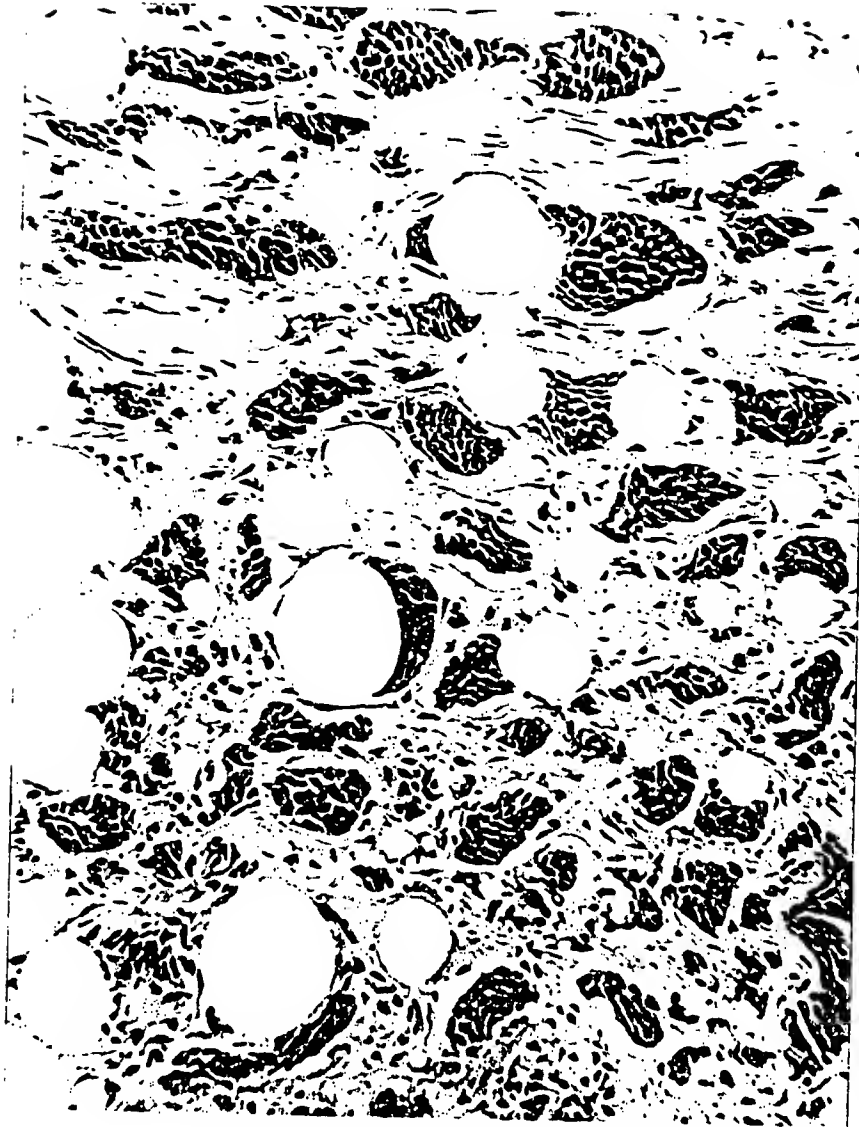
hum N	SNPCQNGATC	SDFIGZGACE	CVPGYGVNC	EYVEDECGQ	PCQNGGTCTD	LVNFKCSCP	POTRGLLCE	NIDOCAR	----	GPICLN	GOCHGRIQ	YSRCRLGPTA	GERCEGDINE	1267
TAN-1	SNPCQNGATC	TOTLOGYSCK	CVAGTHGVNC	SEEDICELSH	PCQNGGTCTD	LVNFKCSCP	POTRGLLCE	NIDOCAR	----	GPICLN	GOCHGRIQ	YSRCRLGPTA	GERCEGDINE	1271
Xen N	SNPCQNGATC	TOTLOGYSCK	CVAGTHGVNC	SEEDICELSH	PCQNGGTCTD	LVNFKCSCP	POTRGLLCE	NIDOCAR	----	GPICLN	GOCHGRIQ	YSRCRLGPTA	GERCEGDINE	1271
Dros N	SNPCQNGATC	RLDIAVCEQ	CRQGFQNG	ELNITDAPN	PCQNGGTCTD	LVNFKCSCP	POTRGLLCE	NIDOCAR	----	GPICLN	GOCHGRIQ	YSRCRLGPTA	GERCEGDINE	1269
														1300
hum H	CLSNPCSDG	SLUCIOLTND	YLVCBSAET	GRUCETFDV	CPQPCLNQ	TCVANSMPD	GFICPCPGP	SGARCS	----	SGQVCKRG	EOCVHTAS	OPRCFCPSP	----	1376
TAN-1	CLSNPCSDG	TOKCVORVND	YLVCBSAET	GRUCETFDV	CPQPCLNQ	TCVANSMPD	GFICPCPGP	SGARCS	----	SGQVCKRG	EOCVHTAS	OPRCFCPSP	----	1376
Xen N	CLSNPCSDG	TOKCVORVND	YLVCBSAET	GRUCETFDV	CPQPCLNQ	TCVANSMPD	GFICPCPGP	SGARCS	----	SGQVCKRG	EOCVHTAS	OPRCFCPSP	----	1376
Dros N	CLSNPCSDG	TOKCVOLVNN	YHCEPCHM	GRHCEKXDF	CAQSPQNG	NQNI	----	ROS	QHUELVNGP	YGVKCELSQ	PCQNSPVRQ	NEVVADESP	GVYCECPRG	1416
														1498
hum H	CLSNPCSDG	TOKCVOLVNN	YHCEPCHM	GRHCEKXDF	CAQSPQNG	NQNI	----	ROS	QHUELVNGP	YGVKCELSQ	PCQNSPVRQ	NEVVADESP	GVYCECPRG	1498
TAN-1	CLSNPCSDG	TOKCVOLVNN	YHCEPCHM	GRHCEKXDF	CAQSPQNG	NQNI	----	ROS	QHUELVNGP	YGVKCELSQ	PCQNSPVRQ	NEVVADESP	GVYCECPRG	1498
Xen N	CLSNPCSDG	TOKCVOLVNN	YHCEPCHM	GRHCEKXDF	CAQSPQNG	NQNI	----	ROS	QHUELVNGP	YGVKCELSQ	PCQNSPVRQ	NEVVADESP	GVYCECPRG	1498
Dros N	CLSNPCSDG	TOKCVOLVNN	YHCEPCHM	GRHCEKXDF	CAQSPQNG	NQNI	----	ROS	QHUELVNGP	YGVKCELSQ	PCQNSPVRQ	NEVVADESP	GVYCECPRG	1531
														1591
hum N	NN-QCDELGN	TVECLTFDNE	COGNSKTC	-YDKYCAHIF	KOHNGNQC	SEECGMDGL	CAQOOPEN-L	AEGLIVIVL	HPPEQLQDA	R-SFLRALQ	LHNTLRIK	DSQGLVVP	1591	
TAN-1	NN-QCDELGN	TVECLTFDNE	COGNSKTC	-YDKYCAHIF	KOHNGNQC	SEECGMDGL	CAQOOPEN-L	AEGLIVIVL	HPPEQLQDA	R-SFLRALQ	LHNTLRIK	DSQGLVVP	1591	
Xen N	NN-QCDELGN	TVECLTFDNE	COGNSKTC	-YDKYCAHIF	KOHNGNQC	SEECGMDGL	CAQOOPEN-L	AEGLIVIVL	HPPEQLQDA	R-SFLRALQ	LHNTLRIK	DSQGLVVP	1591	
Dros N	NN-QCDELGN	TVECLTFDNE	COGNSKTC	-YDKYCAHIF	KOHNGNQC	SEECGMDGL	CAQOOPEN-L	AEGLIVIVL	HPPEQLQDA	R-SFLRALQ	LHNTLRIK	DSQGLVVP	1591	
														1619
hum N	YVGEELKX	HPIKRAEDG	APDALLQV	KASLLPGCE	CGRRRELD	HOVRGSIVL	EIDNRQVQA	SSQCTQATD	VAFLCALAS	LGSL-NIPYK	IEAVQSEVE	PPPPAQ-LHF	1619	
TAN-1	YVGEELKX	HPIKRAEDG	APDALLQV	KASLLPGCE	CGRRRELD	HOVRGSIVL	EIDNRQVQA	SSQCTQATD	VAFLCALAS	LGSL-NIPYK	IEAVQSEVE	PPPPAQ-LHF	1619	
Xen N	YVGEELKX	HPIKRAEDG	APDALLQV	KASLLPGCE	CGRRRELD	HOVRGSIVL	EIDNRQVQA	SSQCTQATD	VAFLCALAS	LGSL-NIPYK	IEAVQSEVE	PPPPAQ-LHF	1619	
Dros N	YVGEELKX	HPIKRAEDG	APDALLQV	KASLLPGCE	CGRRRELD	HOVRGSIVL	EIDNRQVQA	SSQCTQATD	VAFLCALAS	LGSL-NIPYK	IEAVQSEVE	PPPPAQ-LHF	1619	
														1650
hum N	LLAVAVVIL	FILIGGVTH	KRKRK	-HGS	LMLPEGTFL	RDASHKRR	PQCDVGLK	NLSVQVSEAN	LIGTGTSEIM	VDEE	----	G	POPKVKAED	1782
TAN-1	LLAVAVVIL	FILIGGVTH	KRKRK	-HGS	LMLPEGTFL	RDASHKRR	PQCDVGLK	NLSVQVSEAN	LIGTGTSEIM	VDEE	----	G	POPKVKAED	1782
Xen N	LLAVAVVIL	FILIGGVTH	KRKRK	-HGS	LMLPEGTFL	RDASHKRR	PQCDVGLK	NLSVQVSEAN	LIGTGTSEIM	VDEE	----	G	POPKVKAED	1782
Dros N	LLAVAVVIL	FILIGGVTH	KRKRK	-HGS	LMLPEGTFL	RDASHKRR	PQCDVGLK	NLSVQVSEAN	LIGTGTSEIM	VDEE	----	G	POPKVKAED	1782
														1831
hum N	PIDRPMTQO	MLEAADIRRT	PSLAITPPQA	BOEVVDLVN	VRGPDCTPL	HLASRGSS	DLSEDEDAE	DESSANITOL	VTQASLQAG	TERTGEMALH	LAARYSRADA	AKRILLDAGD	1902	
TAN-1	PIDRPMTQO	MLEAADIRRT	PSLAITPPQA	BOEVVDLVN	VRGPDCTPL	HLASRGSS	DLSEDEDAE	DESSANITOL	VTQASLQAG	TERTGEMALH	LAARYSRADA	AKRILLDAGD	1902	
Xen N	PIDRPMTQO	MLEAADIRRT	PSLAITPPQA	BOEVVDLVN	VRGPDCTPL	HLASRGSS	DLSEDEDAE	DESSANITOL	VTQASLQAG	TERTGEMALH	LAARYSRADA	AKRILLDAGD	1902	
Dros N	PIDRPMTQO	MLEAADIRRT	PSLAITPPQA	BOEVVDLVN	VRGPDCTPL	HLASRGSS	DLSEDEDAE	DESSANITOL	VTQASLQAG	TERTGEMALH	LAARYSRADA	AKRILLDAGD	1902	
														1954
hum H	ANQDNGRC	PLHAAVAADA	QGVFOILRN	RYTDLDBRN	DOTTPILIAA	RLAVZBVAE	LINCADVNA	VDDHKSALH	MAAVNVTA	AVILLONGAN	KDMQNKRE	PLFLAAREGS	2022	
TAN-1	ANQDNGRC	PLHAAVAADA	QGVFOILRN	RYTDLDBRN	DOTTPILIAA	RLAVZBVAE	LINCADVNA	VDDHKSALH	MAAVNVTA	AVILLONGAN	KDMQNKRE	PLFLAAREGS	2022	
Xen N	ANQDNGRC	PLHAAVAADA	QGVFOILRN	RYTDLDBRN	DOTTPILIAA	RLAVZBVAE	LINCADVNA	VDDHKSALH	MAAVNVTA	AVILLONGAN	KDMQNKRE	PLFLAAREGS	2022	
Dros H	ANQDNGRC	PLHAAVAADA	QGVFOILRN	RYTDLDBRN	DOTTPILIAA	RLAVZBVAE	LINCADVNA	VDDHKSALH	MAAVNVTA	AVILLONGAN	KDMQNKRE	PLFLAAREGS	2022	
														2074
hum N	YETAAYVLDH	FANRDTIDNH	DRLPADIAQ	RAHHDIVALL	DEYNVTPSP	----	GTVL--TS	ALSPV	----	ICGP	NBSFLSLIKIT	PKCKSRPS	AKSTNTPSLP	2127
TAN-1	YETAAYVLDH	FANRDTIDNH	DRLPADIAQ	RAHHDIVALL	DEYNVTPSP	----	GTVL--TS	ALSPV	----	ICGP	NBSFLSLIKIT	PKCKSRPS	AKSTNTPSLP	2127
Xen N	YETAAYVLDH	FANRDTIDNH	DRLPADIAQ	RAHHDIVALL	DEYNVTPSP	----	GTVL--TS	ALSPV	----	ICGP	NBSFLSLIKIT	PKCKSRPS	AKSTNTPSLP	2127
Dros N	YETAAYVLDH	FANRDTIDNH	DRLPADIAQ	RAHHDIVALL	DEYNVTPSP	----	GTVL--TS	ALSPV	----	ICGP	NBSFLSLIKIT	PKCKSRPS	AKSTNTPSLP	2127
														2170
hum N	OS-RAKUSE	KVQUSE--SS	YTLSPVLE	SPHIVSVDT	SSPM	----	----	----	----	----	----	----	----	2169
TAN-1	OS-RAKUSE	KVQUSE--SS	YTLSPVLE	SPHIVSVDT	SSPM	----	----	----	----	----	----	----	----	2169
Xen N	OS-RAKUSE	KVQUSE--SS	YTLSPVLE	SPHIVSVDT	SSPM	----	----	----	----	----	----	----	----	2169
Dros N	OS-RAKUSE	KVQUSE--SS	YTLSPVLE	SPHIVSVDT	SSPM	----	----	----	----	----	----	----	----	2169
														2219
hum N	OS-PENGLDA	TOSLRKASS	KKTSAAKKA	ANLGNLPOQ	LTGCVSGVPO	VPPNBSAQA	AAAAAAVAA	MSMELESDSP	GVGHGCLPS	PYDTSSHYSN	AMAAPLANGN	PNTCAKOPES	2227	
TAN-1	OS-PENGLDA	TOSLRKASS	KKTSAAKKA	ANLGNLPOQ	LTGCVSGVPO	VPPNBSAQA	AAAAAAVAA	MSMELESDSP	GVGHGCLPS	PYDTSSHYSN	AMAAPLANGN	PNTCAKOPES	2227	
Xen N	OS-PENGLDA	TOSLRKASS	KKTSAAKKA	ANLGNLPOQ	LTGCVSGVPO	VPPNBSAQA	AAAAAAVAA	MSMELESDSP	GVGHGCLPS	PYDTSSHYSN	AMAAPLANGN	PNTCAKOPES	2227	
Dros N	OS-PENGLDA	TOSLRKASS	KKTSAAKKA	ANLGNLPOQ	LTGCVSGVPO	VPPNBSAQA	AAAAAAVAA	MSMELESDSP	GVGHGCLPS	PYDTSSHYSN	AMAAPLANGN	PNTCAKOPES	2227	

## LNR (Notch/In-12 Repeats)

## CDC-10/Ankyrin Repeats

[illegible]

FIG. 14



7326-015 (Sheet 29 of 44)

FIG. 15A

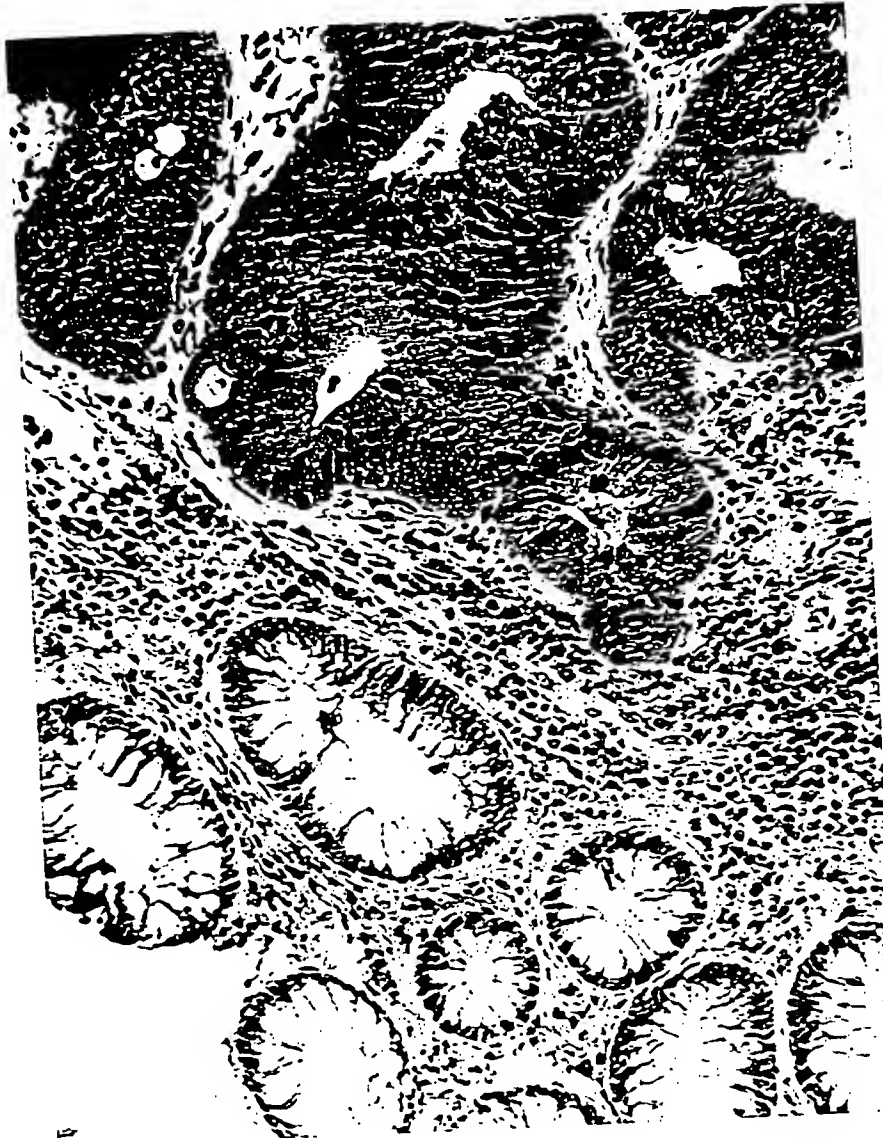


FIG. 15B



FIG. 16A



FIG. 16B





FIG. 17

10 \* GGAATTCGG CCGCCCTCG CCGCCCTCG CTGTGGGCG CTGTGGGCG TTGCTGGCGT CTGGCTGTGC TGGCGGCGC CCGGCTATGC ATTCAGTGT  
 P A L R P A L L W A L L A L L W L C C A A P A H A L Q C>  
 110 \* 100 \* CGAGATGGT ATGAACCTCG TGTAAATGAA GGAATGTGT TTACTTACCA CAATGCACA GGATCTGCA AATGTCCAGA AGGCTTCTTG  
 R D G Y E P C V N E G M C V T Y H N G T G Y C K C P E G F L>  
 120 \* 130 \* 140 \* 150 \* 160 \* 170 \* 180 \*  
 190 \* 200 \* 210 \* 220 \* 230 \* 240 \* 250 \* 260 \* 270 \*  
 \* GTCAACATCG AGACCCCTGT GAGAGAAC GCTGCCAGAA TGGTGGGACT TGTGTGGCC AGGCCATGCT GGGGAAGCC  
 G E Y C Q H R D P C E K N R C Q N G G T C V A Q A M L G K A>  
 280 \* 290 \* 300 \* 310 \* 320 \* 330 \* 340 \* 350 \* 360 \*  
 \* AGTGCCGAT GTGCCTCAGG GTTTACAGGA GAGGACTGCC AGTACTCAAC ATCTCATCCA TGCTTTGTGT CTGACCCCTG CCGAATGGC  
 T C R C A S G F T G E D C Q Y S T S H P C F V S R P C L N G>  
 370 \* 380 \* 390 \* 400 \* 410 \* 420 \* 430 \* 440 \* 450 \*  
 \* GGCACATGCC ATATGCTCAG CCGGATACC TATGACTGCA CCTCTCACT CCGGTTTACA GGTAGGAGT GCCAATGGAC GGATGCCCTGC  
 G T C H M L S R D T Y E C T C Q V G F T G K E C Q W T D A C>  
 460 \* 470 \* 480 \* 490 \* 500 \* 510 \* 520 \* 530 \* 540 \*  
 \* CTGTCTCATC CCTGTGCAA TGGAGTACC TGTACCACTG TGGCAACCA GTTCTCTCTGC AATGCTCA CAGGCTTAC AGGCCAGAA  
 L S H P C A N G S T C T T V A N Q F S C K C L T G F T G Q K>  
 550 \* 560 \* 570 \* 580 \* 590 \* 600 \* 610 \* 620 \* 630 \*  
 \* TGTGAGACT ATGTCAATGA GTGTGACATT CCAGGACACT GCCAGCATGG TGGCACCTGC CTCACCTGC CTGCTTCTTA CCAGTGGCAG  
 C E T D V N E C D I P G H C Q H G G T C L N L P G S Y Q C Q>  
 640 \* 650 \* 660 \* 670 \* 680 \* 690 \* 700 \* 710 \* 720 \*  
 \* TGGCCTCAGG GCTTCACAGG CCACTACTGT GACAGCTGT ATGTGCCCTG TGCACCTCA CTTGTGTCA ATGGAGGCAC CTGTGGCAG  
 C P Q G F T G Q Y C D S L Y V P C A P S P C V N G G T C R Q>  
 730 \* 740 \* 750 \* 760 \* 770 \* 780 \* 790 \* 800 \* 810 \*  
 \* ACTGGTGAAT TCACCTTTGA GTGCACTGC CTTCACGTT TTGAAGGAG CACCTGTGAG AGGAATATG ATGACTGCC TAACACAGG  
 T G D F T F E C N C L P G F E G S T C E R N I D D C P N H R>



## FIG. 17 CONT'D

1630 \* 1640 1650 1660 1670 1680 1690 1700 1710 \*  
 ACTCCGTC TGAATGGGC AAGGTATC GATCACCGA ATGGCTATGA ATGCAGTGT GCCACAGTT TCACTGGT GTTGTGTAG  
 T P C L N G A K C I D H P N G Y E C Q C A T G F T G V L C E>  
  
 1720 \* 1730 1740 1750 1760 1770 1780 1790 1800 \*  
 GAGAACATG ACAACTGTGA CCGCATCTT TCCACCATG GTCAGTGTCA GGATGGTATT GATTCCTACA CTTGCATCTG CAATCCCGG  
 E N I D N C D P D P C H H G Q C Q D G I D S Y T C I C N P G>  
  
 1810 \* 1820 1830 1840 1850 1860 1870 1880 1890 \*  
 TACATGGGG CCATCTGCAG TGACCAGATT GATGAATGTT ACAGCAGCCC TTGCTGAAC GATGGTGGT GCATTGACCT GGTCAATGGC  
 Y M G A I C S D Q I D E C Y S S P C L N D G R C I D L V N G>  
  
 1900 \* 1910 1920 1930 1940 1950 1960 1970 1980 \*  
 TACAGTGA ACTGCCAGCC AGGCAGTCA GGGTTAATT GTGAATTA TTTTGATGAC TGTGCAAGTA ACCCTTGTAT CCATGGAATC  
 Y Q C N C Q P G T S G V N C E I N F D D C A S N P C I H G I>  
  
 1990 \* 2000 2010 2020 2030 2040 2050 2060 2070 \*  
 TGTATGGATG GAATTAATCG CTACATTTGT GTCTGCTCAC CAGGATTCAC AGGCAGAGA TGTAACTTG ACATTGATGA GTGTGCTCC  
 C M D G I N R Y S C V C S P G F T G Q R C N I D I D E C A S>  
  
 2080 \* 2090 2100 2110 2120 2130 2140 2150 2160 \*  
 AATCCTGTC GCAAGGTGC AACATGTATC AACGTGTGA ATGGTTTCG CTGTATATGC CCGAGGGAC CCAATCACC CAGCTCTAC  
 N P C R K G A T C I N G V N G F R C I C P E G P H H P S C Y>  
  
 2170 \* 2180 2190 2200 2210 2220 2230 2240 2250 \*  
 TCACAGGTGA ACGATGCT GAGCAATCCC TGCATCCATG GAACTGTAC TGGAGTCTC AGTGGATATA AGTGTCTCTG TGAATCAGGC  
 S Q V N E C L S N P C I H G N C T G G L S G Y K C L C D A G>  
  
 2260 \* 2270 2280 2290 2300 2310 2320 2330 2340 \*  
 TGGGTGGCA TCAACTGTGA AGTGACAA AATGAATGCC TTTCGAATCC ATGCCAGAT GGAGGACIT GTGCAATCT GTTGAATGA  
 W V G I N C E V D K N E C L S N P C Q N G G T C D N L V N G>  
  
 2350 \* 2360 2370 2380 2390 2400 2410 2420 2430 \*  
 TACAGGTGA CTTCACAGAA GGCCTTAA GGCTATTAAT GCCAGGTGA TATTGATGA TGTGCTCAA ATCCATGCT GAACCAAGGA  
 Y R C T C K F G F K G Y N C Q V N I D E C A S N P C L N Q G>  
  
 2440 \* 2450 2460 2470 2480 2490 2500 2510 2520 \*

ACCTGCTTTG	ATGACATAAG	TGGCTACACT	TGOCACCTG	TGCTGOCATA	CACAGGCAAG	AATTGTGAGA	CAGTATTGCC	TCCCTGTTC	*
T C F	D D I S	G Y T	C H C	V L P Y	T G K	N C Q	T V L A	P C S	*
2530	2540	2550	2560	2570	2580	2590	2600	2610	*
CCAAACCCCT	GTGAGATGC	TGCTGTTTC	AAAGATCAC	CAAATTTGA	GAGTTATCT	TGCTTGCTG	CTCTGGCTG	GCAAGTCA	*
P N P	C E N A	A V C	K E S	P N F E	S Y T	C L C	A P G M	Q G Q	*
2620	2630	2640	2650	2660	2670	2680	2690	2700	*
CGGTGTACCA	TTGACATTGA	CGAGTGTATC	TCCAGCCCT	GCATGAACCA	TGGTCTCTGC	CATAACACCC	AGGCGAGCTA	CATGTGTGAA	*
R C T	I D I D	E C I	S K P	C M N H	G L C	H N T	Q G S Y	M C E	*
2710	2720	2730	2740	2750	2760	2770	2780	2790	*
TGTCACACAG	GCTTGTAGTG	TATGACTGT	GAGAGGACA	TTGATGACTG	CCCTGCCCAT	CCCTTGCCAGA	ATGAGGTTTC	CTGTATGAT	*
C P P	G F S G	M D C	E E D	I D D C	L A N	P C Q	N G G S	C M D	*
2800	2810	2820	2830	2840	2850	2860	2870	2880	*
GGAGTGAATA	CTTCTCTCTG	CCCTGTCCTT	CCGGGTTTCA	CTGGGGATAA	GTGCCAGACA	GACATGATG	AGTGTCTGAG	TGAACCCCTG	*
G V N	T F S C	L C L	P G F	T G D K	C Q T	D M N	E C L S	E P C	*
2890	2900	2910	2920	2930	2940	2950	2960	2970	*
AAGAATGGAG	GGACCTGCTC	TGACTACGTC	AACAGTTACA	CTTCCAGATG	CCAGGCAGGA	TTTGATGAG	TCCATTGTGA	GAACAACATC	*
K N G	G T C S	D Y V	N S Y	T C K C	Q A G	F D G	V H C E	N N I	*
2980	2990	3000	3010	3020	3030	3040	3050	3060	*
AATGAGTGCA	CTGAGAGCTC	CTGTTTCAT	GCTGGCACAT	GTGTTGATGG	GATTAACCTC	TTCTCTGCT	TGTGCCCCCT	GGGTTTCACT	*
N E C	T E S S	C F N	G G T	C V D G	I N S	F S C	L C P V	G F T	*
3070	3080	3090	3100	3110	3120	3130	3140	3150	*
GGATCCTTCT	GCCTCCATGA	GATCAATGAA	TGCAGCTCTC	ATCCATGCTC	GAATGAGGGA	ACGTGTGTTG	ATGGCCTGGG	TACCTACCGG	*
G S F	C L H E	I N E	C S S	H P C L	N E G	T C V	D G L G	T Y R	*
3160	3170	3180	3190	3200	3210	3220	3230	3240	*
TGCAGTGGCC	CCCTGGGCTA	CACCTGGGAA	AACTGTGAGA	CCCTGGTGAA	TCTCTGCAGT	CGGTCTCCAT	GTAAAAACAA	AGGTACTTGT	*
C S C	P L G Y	T G K	N C Q	T L V N	L C S	R S P	C K N	K G T	*
3250	3260	3270	3280	3290	3300	3310	3320	3330	*

## FIG. 17 CONT'D

GTTCAGAAA AAGCAGATC CCAGTGCCTA TGTCCATCTG GATGGGCTGG TGCCTATGT GAGGTGCCCA ATGTCTCTTG TGACATAGCA  
 V Q K K A E S Q C L C P S G W A G A Y C D V P N V S C D I A>  
 3340 \* 3350 \* 3360 \* 3370 \* 3380 \* 3390 \* 3400 \* 3410 \* 3420 \*  
 GCCTCCAGGA GAGGTGTCT TGTTCACAC TTGTGCCAGC ACTCAGGTGT CTGCATCAAT GCTGCCAACA CGCATTAAGT TCAGTGCCTC  
 A S R R G V L V E H L C Q H S G V C I N A G N T H Y C Q C P>  
 3430 \* 3440 \* 3450 \* 3460 \* 3470 \* 3480 \* 3490 \* 3500 \* 3510 \*  
 CTGGGCTATA CTGGGAGCTA CTGTGAGGAG CAACTGCGTG AGTGTGGTC CAACCCCTGC CAGCAGGGG CAACATGCAG TGACTTCATT  
 L G Y T G S Y C E E Q L D E C A S N P C Q H G A T C S D F I>  
 3520 \* 3530 \* 3540 \* 3550 \* 3560 \* 3570 \* 3580 \* 3590 \* 3600 \*  
 GGTGGATACA GATGGAGTG TGTCCAGGC TATCAGGGTG TCAACTGGA GTATCAAGTG GATCAGTGC AGAATCAGC CTGCCAGAT  
 G G Y R C E C V P G Y Q G V N C E Y E V D E C Q N Q P C Q N>  
 3610 \* 3620 \* 3630 \* 3640 \* 3650 \* 3660 \* 3670 \* 3680 \* 3690 \*  
 GGAGGCACCT GTATTGACCT TGTGAACCT TTCAAGTGT CTTCGCCACC AGGCACTGG GGCTACTCT GTCAAGAGAA CATTGATGAC  
 G G T C I D L V N H F K C S C P P G T R G L L C E E N I D D>  
 3700 \* 3710 \* 3720 \* 3730 \* 3740 \* 3750 \* 3760 \* 3770 \* 3780 \*  
 TGTGCCCGG GTCCCATTTG CCTTAATGT GTTCAGTGA TCGATAGAT TGGAGCTAC AGTGTCTGT GTTGCCTGG CTTCCTGGG  
 C A R G P H C L N G G Q C M D R I G G Y S C R C L P G F A G>  
 3790 \* 3800 \* 3810 \* 3820 \* 3830 \* 3840 \* 3850 \* 3860 \* 3870 \*  
 GACGTTGTG AGGAGACAT CAACGAGTGC CTCTCCACC OCTGAGCTC TGAGGGCAGC CTGCACTGA TACAGCTAC CAATGACTAC  
 E R C E G D I N E C L S N P C S S E G S L D C I Q L T N D Y>  
 3880 \* 3890 \* 3900 \* 3910 \* 3920 \* 3930 \* 3940 \* 3950 \* 3960 \*  
 CTGTGTGTT GCCGTAGTC CTTTACTGC CGGCACTGT AAACCTTGT CGATGTGT CCCAGATGC CCGCTCTGAA TGGAGGACT  
 L C V C R S A F T G R H C E T F V D V C P Q M P C L N G G T>  
 3970 \* 3980 \* 3990 \* 4000 \* 4010 \* 4020 \* 4030 \* 4040 \* 4050 \*  
 TGTGCTGTGG CCAGTAACAT GCCGTATGT TTCAATTTCC GTTGTCCC GGAATTTCC GGGCAGGT GCCAGAGCAG CTGTGACAA  
 C A V A S N M P D G F I C R C P P G F S G A R C Q S S C G Q>  
 4060 \* 4070 \* 4080 \* 4090 \* 4100 \* 4110 \* 4120 \* 4130 \* 4140 \*  
 GTGAAATGTA GGAAGGGGA GCAGTGTGT CACACCGCT CTGACCCCG CTGCTTCTGC CCGAGTCCC GGAATCTGA GTGAGGCTGT

## FIG. 17 CONT'D

V K C R K G E Q C V H T A S G P R C F C P S P R D C E S G C>  
 4150 \* 4160 \* 4170 \* 4180 \* 4190 \* 4200 \* 4210 \* 4220 \* 4230 \*  
 GCCAGTAGC CTTGCCAGCA GGGGGCAGC TGGCACCCTC AGGGCCAGCC TCCCTATTAC TCCCTGCCAGT GTGCCCCACC ATTCTGGGT  
 A S S P C Q H G G S C H P Q R Q P P Y Y S C Q C A P P F S G>  
 4240 \* 4250 \* 4260 \* 4270 \* 4280 \* 4290 \* 4300 \* 4310 \* 4320 \*  
 AGGGCTGTG AACTCTACAC GGCACCCCC AGCACCCCTC CTGCCACTG TCTGAGCCAG TATTGTCCG ACAAGCTCG GGATGCCGTC  
 S R C E L Y T A P P S T P P A T C L S Q Y C A D K A R D G V>  
 4330 \* 4340 \* 4350 \* 4360 \* 4370 \* 4380 \* 4390 \* 4400 \* 4410 \*  
 TGTGATGAG CCTGCAACAG CCATGCTGTC CAGTGGATG GGGTGACTG TTCTCTCACC ATGGAGAAC CCTGGGCCAA CTGCTCTCTC  
 C D E A C N S H A C Q W D G G D C S L T M E N P W A N C S S>  
 4420 \* 4430 \* 4440 \* 4450 \* 4460 \* 4470 \* 4480 \* 4490 \* 4500 \*  
 CCACTTCCCT GCTGGGATTA TATCAACAC CAGTGTGATG AGCTGTGCAA CAGGTGCGAG TGGCTGTGTG ACAACTTTGA ATGCCAGGG  
 P L P C W D Y I N N Q C D E L C N T V E C L F D N F E C Q G>  
 4510 \* 4520 \* 4530 \* 4540 \* 4550 \* 4560 \* 4570 \* 4580 \* 4590 \*  
 AACAGCAGA CATGCAAGTA TGACAAATAC TGTGCAACC ACTTCAAGA CAACACTGT AACAGGGGT GCAACAGTGA GGAGTGTGT  
 N S K T C K Y D K Y C A D H F K D N H C N Q G C N S E E C G>  
 4600 \* 4610 \* 4620 \* 4630 \* 4640 \* 4650 \* 4660 \* 4670 \* 4680 \*  
 TGGGATGGC TGGACTGTG TGTGACCAA CCTGAGAAC CCTGAGAAC TACCCTGTT ATTGTGTAT TGTGCCACC TGAACAATG  
 W D G L D C A A D Q P E N L A E G T L V I V V L M P P E Q L>  
 4690 \* 4700 \* 4710 \* 4720 \* 4730 \* 4740 \* 4750 \* 4760 \* 4770 \*  
 CTCCAGGATG CTGCAGCTT CTGCGGCA CTGGGTACC TGTCCACAC CAACCTGGC ATTAAGCGG ACTCCAGG GGAACATG  
 L Q D A R S F L R A L G T L L H T N L R I K R D S Q G E L M>  
 4780 \* 4790 \* 4800 \* 4810 \* 4820 \* 4830 \* 4840 \* 4850 \* 4860 \*  
 GTGTACCCCT ATTATGGTGA GAAGTCAGCT GCTATGAAGA AACAGAGAT GACAGCAGA TCCCTTCTG GTGAACAAGA ACAGGAGTG  
 V Y P Y Y G E K S A A M K K Q R M T R R S L P G E Q E V>  
 4870 \* 4880 \* 4890 \* 4900 \* 4910 \* 4920 \* 4930 \* 4940 \* 4950 \*  
 GCTGCTCTA AGCTTTCTT GGAATTGAC AACCCCGAGT GTGTTCAAGA CTCAGACCAC TGTTCAGA ACACGGATGC ACCAGCAGCT  
 A G S K V F L E I D N R Q C V Q D S D H C F K N T D A A A>

## FIG. 17 CONT'D

4960	4970	4980	4990	5000	5010	5020	5030	5040
CTCTGGCCT	CTCAGGCAT	ACAGGGACC	CTGTCAATCC	CTCTTGTC	TGTCCTAGT	GAATCCCTCA	CTCCAGAAGC	CACTCAGCTC
L L A S H A I	Q G T L S Y P L V S	V V S	E S L T P E R T Q L>					
5050	5060	5070	5080	5090	5100	5110	5120	5130
CTCTATCC	TGCTGTGC	TGTCATC	ATTCTGTTA	TATTCGCT	GGGGTAATC	ATGCCAATC	GAAGCGTAA	GCATGGCTCT
L Y L L A V A	V V I I L F I I L L G V I	M A K R K H G S>						
5140	5150	5160	5170	5180	5190	5200	5210	5220
CTCTGGTGC	CTGAAGTTT	CACCTTCGC	CGAGATGCA	GCAATCACA	GCGTCGTAG	CCAGTGGAC	AGGATGCTGT	GGGGCTGAAA
L W L P E G F	T L R R D A S N H K R R E	P V G Q D A V G L K>						
5230	5240	5250	5260	5270	5280	5290	5300	5310
AATCTCTCAG	TGCAAGTCTC	AGAAGCTAAC	CTAATTGTA	CTGGAACAAG	TGAACACTGG	GTGATGATG	AAGGGCCCCA	GCCHAAGAAA
N L S V Q V S	E A N L I G T G T S E H W	V D D E G P Q P K K>						
5320	5330	5340	5350	5360	5370	5380	5390	5400
GTAAGGCTG	AAGATGAGGC	CTTACTCTCA	GAAGAAGATG	ACCCCATTA	TGCAGGGCCA	TGCACACAGC	AGCACCCTGA	AGCTGCACAC
V K A E D E A	L L S E E D D P I D R R P	W T Q Q H L E A A D>						
5410	5420	5430	5440	5450	5460	5470	5480	5490
ATCCGTAGGA	CACCATCGCT	GGCTCTCACC	CCTCCTCAGG	CAGACAGGA	GGTGGATGTG	TTAGATGTGA	ATGTCGCTGG	CCCAGATGGC
I R R T P S L	A L T P P Q A E Q E V D V	L D V N V R G P D G>						
5500	5510	5520	5530	5540	5550	5560	5570	5580
TGCACCCCAT	TGATGTGGC	TTCTCTCCGA	GGAGGCAGCT	CAGATTTCAG	TGATGAAGAT	GAAGATGCAG	AGGACTCTTC	TGCTAATC
C T P L M L A	S L R G G S S D L S D E D	E D A E D S A N I>						
5590	5600	5610	5620	5630	5640	5650	5660	5670
ATCAGAGCT	TGGTCTACCA	GGGTGCCAGC	CTCCAGGCC	AGACAGACCG	GACTGGTGAG	ATGGCCCTGC	ACCTTGCAGC	CCGCTACTCA
I T D L V Y Q	G A S L Q A Q T D R T G E	M A L H L A A R Y S>						
5680	5690	5700	5710	5720	5730	5740	5750	5760
CGGGTGATG	CTGCCAAGG	TCTCTGGAT	GCAGTGACG	ATGCCAATGC	CCAGACAAC	ATGGCCGCT	GTCCACTCCA	TGCTGCAGTG
R A D A A K R	L L D A G A D A N A Q D N	M G R C P L H A A V>						

## FIG. 17 CONT'D

5770 \* 5780 5790 5800 5810 5820 5830 5840 5850 \*  
GCAGCTGATG CCCAAGGTGT CTTCAGATT CTGATTGCGA ACCGAGTAAC TGAATAGAT GGCAGGATGA ATGATGGTAC TACACCCCTG  
A A D A Q G V F Q I L I R N R V T D L D A R M N D G T T P L>  
5860 \* 5870 5880 5890 5900 5910 5920 5930 5940 \*  
ATCCTGCTG CCGGCTGGC TGTGGAGGA ATGGTGCGAG AACTGATCAA CTGCCAAGG GATGGAATG CAGTGGATGA CCATGGAAAA  
I L A A R L A V E G M V A E L I N C Q A D V N A V D D H G K>  
5950 \* 5960 5970 5980 5990 6000 6010 6020 6030 \*  
TCTGCTCTTC ACTGGGCAGC TGCTGTCAAT AATGTGAGG CAACTCTTT GTTGTGAAA AATGGGGCCA ACCGAGACAT GCAGGACAAAC  
S A L H W A A A V N N V E A T L L L L K N G A N R D M Q D N>  
6040 \* 6050 6060 6070 6080 6090 6100 6110 6120 \*  
AAGGAAGAGA CACCTCTGTT TCTGTCTGCC CCGGAGGGGA GCTATGAAGC AGCCAAATC CTGTAGACC ATTGTGCAA TCGAGACATC  
K E E T P L F L A A R E G S Y E A A K I L L D H F A N R D I>  
6130 \* 6140 6150 6160 6170 6180 6190 6200 6210 \*  
ACAGACCAATA TGGATGTGT TCCCGGGAT GTGGCTGGG ATGCGATCA CCAATGACAT GTGCGCTTC TGGATGATA CAATGTGACC  
T D H M D R L P R D V A R D R M H D I V R L L D E Y N V T>  
6220 \* 6230 6240 6250 6260 6270 6280 6290 6300 \*  
CCAGCCCTC CAGGCACGT GTGACTTCT GCTCTCTCAC CTGTCAATG TGGGCCCAAC AGATCTTTC TCAGCCCTGAA GCACACCCCA  
P S P P G T V L T S A L S P V I C G P N R S F L S L K H T P>  
6310 \* 6320 6330 6340 6350 6360 6370 6380 6390 \*  
ATGGGCAAGA AGTCTAGACG GCCAGTCCC AAGAGTACCA TGCCTACTAG CCTCCCTAAC CTTGCCCAAGG AGCCAAAGGA TGCCAAGGCT  
M G K K S R R P S A K S T M P T S L P N L A K E A K D A K G>  
6400 \* 6410 6420 6430 6440 6450 6460 6470 6480 \*  
AGTAGGAGA AGAAGTCTCT GAGTGAGAG GTCCAACTGT CTGAGAGTTC AGTAACTTTA TCCCTGTGTG ATTCCCTAGA ATCTCCTCAC  
S R R K K S L S E K V Q L S E S S V T L S P V D S L E S P E>  
6490 \* 6500 6510 6520 6530 6540 6550 6560 6570 \*  
ACGTATGTT CCGACACCAC ATCCTCTCCA ATGATTACAT CCGCTGGAT CTTACAGGCC TCACCCCAACC CTATGTGGC CACTGCCGCG  
T Y V S D T T S S P M I T S P G I L Q A S P N P M L A T A A>  
6580 6590 6600 6610 6620 6630 6640 6650 6660



FIG. 17 CONT'D

CCTCTGCCC	* CAGTCCATGC	* CCAGCATGCA	* CTAATCTTTT	* CTAACCTTCA	* TGAATGCAG	* CCTTTGGCAC	* ATGGGGCCAC	* CACTGTGCT
P P A	P V B A	Q H A	L S F	S N L	H E M	Q P L	A H G	A S T V L
6670	* 6680	* 6690	* 6700	* 6710	* 6720	* 6730	* 6740	* 6750
CCCTCAGTGA	* GGCAGTTGCT	* ATCCACACC	* CACATTTGCT	* CTCAGGGCAG	* TGGCATGCT	* GGAAGCTTGA	* GTAGGCTCCA	* TCCAGTCCCA
P S V	S Q L L	S H H	H I V	S P G	S G S A	G S L	S R L	H P V P
6760	* 6770	* 6780	* 6790	* 6800	* 6810	* 6820	* 6830	* 6840
GTCCAGCAG	* ATTGGATGAA	* CCGCATGGAG	* GTGAATGAGA	* CCCAGTACAA	* TGAGATGTT	* GGTATGTGCC	* TGGCTCCAGC	* TGAGGGCCAC
V P A	D W M	N R M	E V N	E T Q	Y N E	M F G	M V L	A P A E G T
6850	* 6860	* 6870	* 6880	* 6890	* 6900	* 6910	* 6920	* 6930
CATCCTGGCA	* TAGCTCCCCA	* GAGCAGGCCA	* CCTGAAGGGA	* AGCACATPAC	* CACCCCTCGG	* GAGCCCTTGC	* CCCCATTGCT	* GACTTTCCAG
H P G	I A P	Q S R	P P E	G K H	I T T	P R E	P L P	P I V T F Q
6940	* 6950	* 6960	* 6970	* 6980	* 6990	* 7000	* 7010	* 7020
CTCATCCCTA	* AAGGCACTAT	* TGCCCAACCA	* GCGGGGCTC	* CCCAGCCTCA	* GTCCACTGTC	* CCTCCAGCTG	* TTGCGGGGCC	* COTGCCOACC
L I P	K G S	I A Q	P A G	A P Q	P Q S	T C P	P A V	A G P L P T
7030	* 7040	* 7050	* 7060	* 7070	* 7080	* 7090	* 7100	* 7110
ATGTACGAGA	* TTCCAGAAAT	* GGCCCGTTTG	* OCCAGTGTGG	* CTTTCCCCAC	* TGCCATGANG	* COCCAGCAGG	* ACGGCAGCT	* AGCTCAGACC
M Y Q	I P E	M A R	L P S	V A P	P T A	M M P	Q Q D	G Q V A Q T
7120	* 7130	* 7140	* 7150	* 7160	* 7170	* 7180	* 7190	* 7200
ATTCTCCAG	* CCAATCATCC	* TTTCACAGCC	* TCTGCGGCA	* AGTACCCAC	* ACCCCCTTCA	* CAGCACAGTT	* ATGCTTCTC	* AAATGCTGCT
I L P	A Y H	P F P	A S V	G K Y	P T P	S Q H	S Y A	S S N A A
7210	* 7220	* 7230	* 7240	* 7250	* 7260	* 7270	* 7280	* 7290
GAGCGACAC	* CCAGTCACATC	* TGCTCACCTC	* CAGGTGAGC	* ATCCCTTACT	* GACACCATCC	* COAGATCTC	* CTGACCAGTG	* GTCAAGTTCA
E R T	P S H	S G B	L Q G	E H P	Y L T	P S P	E S P	D Q W S S S
7300	* 7310	* 7320	* 7330	* 7340	* 7350	* 7360	* 7370	* 7380
TCACCCCACT	* CTGTTCTGA	* CTGCTCAGAT	* GTACACCACCA	* GCGCTACCCC	* TGGGGGTGCT	* GGAGGAGTTC	* AGCGGGGACC	* TGGGACACAC
S P B	S A S	D W S	D V T	T S P	T P G	G A G	G Q R	G P G T H
7390	* 7400	* 7410	* 7420	* 7430	* 7440	* 7450	* 7460	* 7470

## FIG. 17 CONT'D

ATGTCGAGC CACCACACAA CAACATGCAG GTTATGCGT GAGAGAGTCC ACCTCCAGTG TAGACACATA ACTGACITTT GTAATGCTG  
 M S E P P H N N M Q V Y A  
 7480 \* 7490 \* 7500 \* 7510 \* 7520 \* 7530 \* 7540 \* 7550 \* 7560 \*  
 CTGAGGACA AATGAAGTC ATCCGGGAGA GAATGAAGA AATCTGGA GCCAGCTTCT AGAGGTAGGA AAGAGAGAT GTTCTTATTC  
 7570 \* 7580 \* 7590 \* 7600 \* 7610 \* 7620 \* 7630 \* 7640 \* 7650 \*  
 AGATAATCA AGAGAGCAA TTCGTGAGT TCACTGGGTA TGTCAAGGC TTATGATTA TTCTAATCTA ATAAGACAAG TTTGTGGAAA  
 7660 \* 7670 \* 7680 \* 7690 \* 7700 \* 7710 \* 7720 \* 7730 \* 7740 \*  
 TGAAGATGA ATACAGCCT TGGGTCCATG TTTACTCTCT TCTATTTGGA GAATAAGAG GATGCTATT GAAGCCGAGA CATCTTGCA  
 7750 \* 7760 \* 7770 \* 7780 \* 7790 \* 7800 \* 7810 \* 7820 \* 7830 \*  
 GCTTGAGTG CATTTAAGC CCTGCAGGCT TCTGCCATAT CCATGAGAAG ATTCTACACT AGGTCTCTGT TGGGAATTAT GCCCTGGAT  
 7840 \* 7850 \* 7860 \* 7870 \* 7880 \* 7890 \* 7900 \* 7910 \* 7920 \*  
 TCTGCTGAA TTGAOCTAG CATCTCTCC TCTTGAGCA TTCCTTGTG TTCTTTGGT GCTTTGGT TTGCACCTCT CCGTGAATGT  
 7930 \* 7940 \* 7950 \* 7960 \* 7970 \* 7980 \* 7990 \* 8000 \* 8010 \*  
 AGCCCTACCA GCATGTTATA GGGCAAGACC TTTTGCTTT TGATCAATCT GGGCCATGAA AGCAACTTGG GTCCTCTTC CCTCCTGTC  
 8020 \* 8030 \* 8040 \* 8050 \* 8060 \* 8070 \* 8080 \* 8090 \* 8100 \*  
 TTCCCGGTAT CCCTTGAGT CTCACAAGT TTACTTTGT AUGGTTCTCA GCACAAACCT TTCAGTAGTG TTGTTCTTTT GGAATATGGA  
 8110 \* 8120 \* 8130 \* 8140 \* 8150 \* 8160 \* 8170 \* 8180 \* 8190 \*  
 CATACTGTAT TGTGTTCTCC TGCATATATC ATTCTCGAG AGAGAGGGG AGAAGATAC TTTTCTTCAA CAATTTTGG GGGCAGAGA  
 8200 \* 8210 \* 8220 \* 8230 \* 8240 \* 8250 \* 8260 \* 8270 \* 8280 \*  
 TOCCTTCAAG AGCTGCACC TTAATTTTC TTGTCGTGT GCAGGTCTTC ATATAACIT TACCAGGAAG AAGGTCTGA GTTGTGTGT  
 8290 \* 8300 \* 8310 \* 8320 \* 8330 \* 8340 \* 8350 \* 8360 \* 8370 \*  
 TTTCTGTATA TGGGCTGCT CAGTGTAAAG TTTATCTCTT GATAGCTAG TTACTATGAC CCTOCCCACT TTTTAAAC CAGAAAAGG  
 8380 \* 8390 \* 8400 \* 8410 \* 8420 \* 8430 \* 8440 \* 8450 \* 8460 \*  
 TTTGGAATGT TGAATGACC AAGAGACAAG TTAACCTGTG CAAGGCCAG TTACCCACC ACAGGTCCC CTACTTCTG CCAAGCATTC

## FIG. 17 CONT'D

8470	8480	8490	8500	8510	8520	8530	8540	8550
CATTGACTGC	CTGTATGGAA	CACATTTGTC	CCAGATCTGA	GCAATCTAGG	CCGTGTTTAC	TCACTCACCC	AGCATATGAA	ACTAGTCTTA
8560	8570	8580	8590	8600	8610	8620	8630	8640
ACTGTGTAGC	CTTTCCTTTC	ATATCCACAG	AAGACACTGT	CTCABAATGT	GTACCCCTGC	CATTTAGGAC	TGNACTTTCC	TTAGCCCAAG
8650	8660	8670	8680	8690	8700	8710	8720	8730
GGACCCAGTG	ACAGTTGTCT	TCGGTTTGTG	AGATGATCAG	TCCTCTACTGA	TTATCTTGCT	GCTTAAAGGC	CTGCTCACCA	ATCTTTCTTT
8740	8750	8760	8770	8780	8790	8800	8810	8820
CACACCGTGT	GGTCCGTTGT	ACTGGTATAC	CCAGTATGTT	CTCACTGAAG	ACATGGACTT	TATATGTCTA	AGTGCAGGAA	TTGGAAAGTT
8830	8840	8850	8860	8870	8880	8890	8900	8910
GGACTTGTCT	TCTATGATCC	AAAACAGCCC	TATAAGAAGG	TTGGAAAAGG	AGGAACTATA	TAGCAGCCCT	TGCTATTTTC	TGCTACCAAT
8920	8930	8940	8950	8960	8970	8980	8990	9000
TCCTTTCTTC	TGAAGCGGCC	ATGACATTC	CTTTGGCAAC	TAAGGTAGAA	ACTCAACAGA	ACATTTTCCT	TTCTTAGAGT	CACCTTTTAG
9010	9020	9030	9040	9050	9060	9070	9080	9090
ATGATATGCG	ACAACTATAG	ACTTGCTCAT	TGTTTCAGCT	GATTTGCCCT	CACCTGATTC	CACCTCTCTG	ATTGATGCTC	TTGGCAATTT
9100	9110	9120	9130	9140	9150	9160	9170	9180
CTTTGACTTT	CTTTTAAGGG	CAGAACCAAT	TTAGTTAATT	GTAGATTAAG	AAATAGTTTC	TTCTCTCTCT	CCTTGGGGCA	GTAAATAATT
9190	9200	9210	9220	9230	9240	9250	9260	9270
GGTCCATGGC	TACACTGCAA	CTTCGGTCCA	GTGCTGTGAT	GGCCATGACA	CCTGCAAAAT	AGTTCTGCTC	TGGGCAATTT	GTAGATATTA
9280	9290	9300	9310	9320	9330	9340	9350	9360
ACAGGTGAAT	TCCCGACTCT	TTTGGTTTGA	ATGACAGTTC	TCATTCCTTC	TATGGCTGCA	AGTATGATTC	AGTGCCTCCC	ACTTACCTGA
9370	9380	9390	9400	9410	9420	9430	9440	9450
TTTGCTCTGC	GGTGGGCCCA	TATGGAACCC	CTGGGTGCT	GTGGCATATA	TAGTTTACAA	ATGGTTTTTT	CAGTCTCTATC	CAATTTTATT
9460	9470	9480	9490	9500	9510	9520	9530	9540

## FIG. 17 CONT'D

GAACCAACAA	AAATAATATAC	TCTGCCCCG	AGATAAGCAG	ATTAGTTTG	TTCATTCTCT	GCTTTATTTCT	CTCCATGTGG	CAACATTCTG
9550	9560	9570	9580	9590	9600	9610	9620	9630
TCAGCCCTCT	TCATAGTGTG	CAACATTTT	ATCATTTCTAA	ATGGTGACTC	TCTGCCCTTG	GACCCATTTA	TATTCACAG	ATGGGAGAA
9640	9650	9660	9670	9680	9690	9700	9710	9720
CCATATCTGCA	TGGACCCCTCA	CCATCTCTG	TGCAGCACAC	ACAGTGCAGG	GAGCCAGTGG	CGATGGCGAT	GACTTTCTTC	CCCTGGGAAT

TCC